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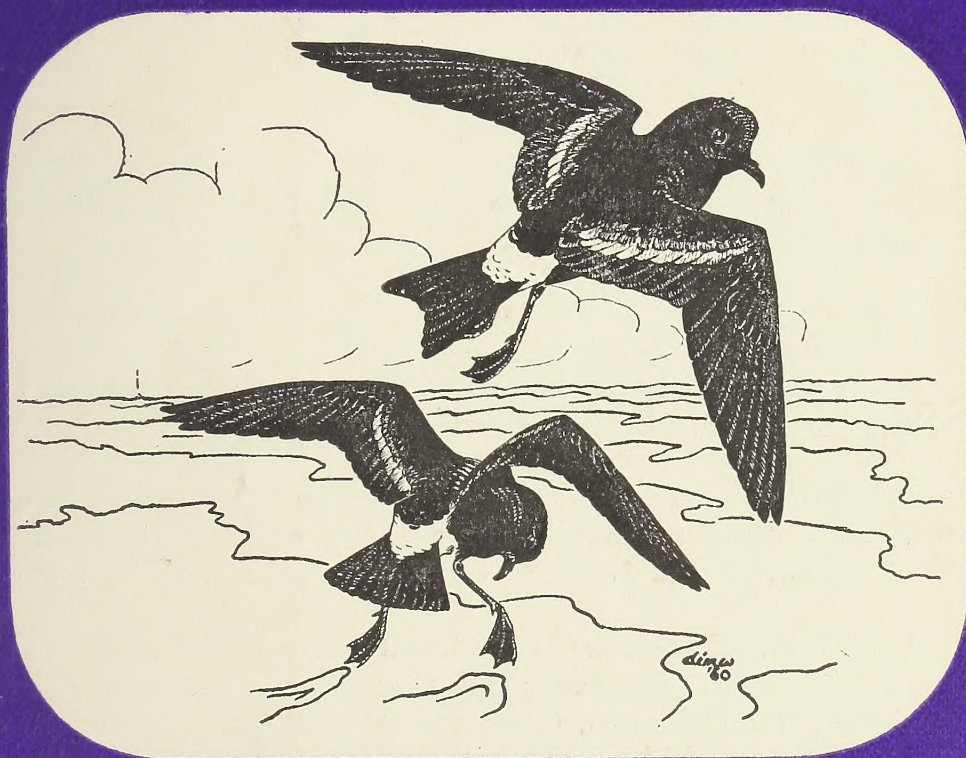
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THE LONDON NATURAL HISTORY SOCIETY

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THE LONDON BIRD REPORT NOV 2013

Number 24, 1959

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THE LONDON NATURAL HISTORY SOCIETY

Recording Arrangements

The Society's Area is bounded by a circle of 20 miles radius centred on St. Paul's Cathedral. The recorders, whose names and addresses are given below, welcome records from members and non-members. It materially assists the speedy entering of records if the following points are observed.

1. Please use the Society's recording sheets, which can be obtained from the Recorders. Submit records for North of the Thames, South of the Thames, and Inner London on separate sheets.
2. Please enter records by species in the Wetmore Order, which is used in this report. It is particularly requested that date order should not be used, as this inevitably slows down the work of transferring entries from the recording sheets to the card index which is used in the preparation of the report.
3. Please submit copies of field notes for all records of rare or unusual species.
4. Completed recording sheets should be submitted in August for the period January to July, in November for the period August to October, and in the first week of January for November and December.

Copies of the B.T.O. Field List of British Birds, which is in the Wetmore Order, may be obtained from Mrs. M. Waller, 77 Princes Avenue, W.3, price 6d. each, plus postage 2d. each ; 12 copies, postage 5d.

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THE LONDON BIRD REPORT

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Introduction

FOLLOWING the resignations of the Joint Editors for 1958, the editorial responsibility was taken over by D. I. M. Wallace. The similarly caused vacancies for Recorders for North and South of the Thames were filled by P. R. Colston and R. E. Scott respectively. Later the resignation of Mr. Scott was made necessary by his appointment as guardian of Dungeness; his post has now been taken over by M. J. Carter. Due to the pressure of other work, R. E. Spencer left the Records Committee and R. Hudson took his place as Essex representative. Following moves to increase the representation of observers in the North of the Area, B. L. Sage joined the Committee to look after Hertfordshire interests.

It will be obvious from the changes noted above that the problem of ensuring continuity in the vital process of cataloguing and publishing the observations of members has not been solved. Furthermore with the increasing number of records submitted annually, the compilation of the *London Bird Report* is a task now almost beyond the energies and time available to one person. The position has now been reached where it is felt that the production of the report would be better handled by a committee, which can take part in the preliminary work of records adjudication and then undertake their later interpretation and publication. This body will be designed as an Editorial Committee and while it can only be tested in practice, it is hoped that the revision of the present structure will facilitate earlier publication of the report by means of a more equitable division of editorial responsibility. The members of the new Committee are D. I. M. Wallace, who will be responsible for the general editorial policy, R. C. Homes, P. R. Colston and B. L. Sage.

Frontispiece : A FAMILY OF BULLFINCHES

(photographed by E. J. Hosking)

Contributors are asked to note the names and addresses of the current Recorders, which are given together with the present recording arrangements, on cover iii. Records should be submitted thrice yearly. It would, however, be appreciated if observers would continue to submit *immediately* observations of rare species in order that confirmation, if necessary, can be obtained. The Records Committee must emphasize again the importance of reports of rare or unusual species in the Area being accompanied by full supporting details. Once again in 1959 several interesting records have had to be omitted from this Report because the supporting evidence was insufficient for them to be fully acceptable, even though the identifications in many cases were probably correct. A case in point was the Great Snipe, only two of several records of this difficult bird in 1959 being well enough documented for them to be admitted. Contributors are recommended to study the descriptions of rare species such as appear in *British Birds* and, if necessary, use whichever strikes them as best as models for their own records.

During the year the Research Sub-Committee started two important investigations, one into the bird-life of rubbish dumps and the other into the avian population of the Lea Valley. The collection of observations is being undertaken by A. Gibbs and T. W. Gladwin respectively and the results of their work will be published in due course. Members were also asked to support the inquiries sponsored by the British Trust for Ornithology and co-operation in the annual census of Heronries and the Wildfowl Inquiry continues.

Three papers follow the systematic list. The first on page 60 by D. C. Seel contains the results of a careful and patient survey of the resident population of a farm near Pinner, Middlesex. The second considers the limital distribution and habitats of the Woodlarks in southern England making full use of the Society's own records to describe the fluctuations in population; written by C. J. O. Harrison, it commences on page 71. The third on page 81 by D. I. M. Wallace contains the results of almost daily observations in Regent's Park in 1959, with special reference to subjects such as the fluctuating breeding population of Inner London and simultaneous inland and coastal migration. B. S. Milne contributes on page 109 a second report on the progress of the Beddington Ringing Station. Mention of interesting ringing recoveries are included under the relevant species in the systematic list.

The Year

IF one is to reckon the London bird watcher's yearly performance only on the successful recording (and capture) of rarities, 1959 was rather below par and certainly less successful than 1958. If however, one takes the view that such occurrences are incidental to the main purpose of cataloguing the real trends in the avifauna of the London Area, then 1959 was a good year.

From the records submitted, it is clear that the tendency for observers to concentrate on a fixed area and not spend every available moment at some already well-known locality is increasing with nothing but gain resulting from the more balanced coverage of the Society's territory. It is hoped that this tendency will become habit; working one's own place has special rewards and scientifically it is of much more value than purely random observations. The continued success of the Beddington Ringing Station provides ample proof of this. Careful attention is also being paid to the Lea Valley, Swanscombe Marshes, Inner London and Leatherhead Watercress Beds. The accumulated records made in areas such as these will soon stand comparison with any of the systematic investigations carried out in the past and the observers concerned all provided information which advanced our knowledge of local avifaunas significantly.

191 species were specifically identified during 1959; four others were determined generically so that in total, 195 species are known to have occurred in the London Area during the year. The only new species recorded was the Roller, single birds appearing in both seasons of migration.

JANUARY TO MID-MARCH

The flock of Ruffs which arrived at Perry Oaks S.F. in late October, 1958, continued to frequent that area throughout the first three months of the year. Containing up to 27 individuals, it remains the most interesting group of wintering birds near London. However the mid-winter population of the area had several other extraordinary components, including a minimum of 100 Cormorants with the majority at Staines, 12 Short-eared Owls in seven widely scattered localities and no less than three Chiffchaffs at Beddington S.F. From January 7th to 20th, a period of extensive hard-weather movements of Lapwings, several more unusual occurrences were noted. The most surprising was an Osprey, being mobbed by Lesser Black-backed Gulls, at Mill Hill on January 8th; this species is extremely rare in winter in Britain, normally wintering south of the Mediterranean Sea. A flock of 23 wild swans flying west over Staines on the 10th were probably evacuees from the Low Countries as were the Lapwings mentioned above. Between the 11th and 14th, Ringed Plover, Dunlin, Knot and Turnstone were all recorded at Beddington S.F. Also on the 11th, a Glaucous Gull and a Ring Ouzel were seen at Queen Mary Reservoir. Mid-January was the peak winter period for Lesser Black-backed Gulls with no less than 1,200 present in the Area, but they became surprisingly scarce later in the winter. On January 15th two Redpolls were seen in the Cripplegate bombed site and other visitors to Inner London at this time included Long-tailed Tits. Some of the hard-weather visitors withdrew almost simultaneously with the thaw in the third week, but Shags appeared at two localities at this time and an Iceland Gull at Ruxley G.P., first seen on the 31st, stayed on until March.

February was a month of little incident, apart from an astonishing overland passage of Kittiwakes at the end of the third week; on the 22nd no less than 116 were seen flying south-west over the Leatherhead Watercress Beds and on this day four other localities provided records of this

species, normally pelagic in winter. A Blackcap, the only sylvine species other than Chiffchaff noted during the winter, was found at Hornchurch on the 14th and on the next day the only Twite of the year was discovered among Linnets at Epsom. February 15th was also a wildfowl count day; the total of 995 Great Crested Grebes noted on the waters included in the census was the second highest of the year. On the 21st, 30 Jack Snipe were recorded at Elmers End S.F. now apparently the locality most favoured by this species in the London Area. At the end of the month a small wreck of Red-throated Divers occurred in the Lea Valley, all three birds concerned dying shortly afterwards.

Up to 79 Cormorants were found roosting in elms at Wraysbury G.P. early in March, but the really exceptional records for that month were of Waxwings. There were flocks of 20 resident at Green Street Green and Bookham Common for at least a fortnight, those at the latter locality having probably arrived as early as January. Members of this flock were trapped, ringed and filmed shortly before they left, but the wintering Ring Ouzel at Queen Mary Reservoir had been captured earlier, on the 8th, and was already wearing its ring.

MID-MARCH TO MAY

The first true Summer visitors to arrive were a Wheatear at Cripplegate on March 14th and a Sand Martin at Hersham S.F. on the 15th. Three days later an early Hoopoe in a Surrey garden was a splendid omen for the spring migration, which did not gather pace however until early April. On the 4th, Inner London received its first sizeable fall of nocturnal migrants, but this gave no warning of the main event of the 5th, a flock of four Barnacle Geese flying north-west over Beddington S.F. This record constitutes only the second occurrence of this species in the London Area since 1900. Also on the 5th, at nearby Elmers End S.F., a Chiffchaff ringed by Beddington Ringing Station on January 3rd was retrapped and found to possess the characters of one of the northern forms. The volume of migration rose rapidly after the first week of April and a Kentish Plover at Walthamstow Reservoir on the 19th matched the similarly dated record of 1958. The 20th saw a peak in the passage of White Wagtails, but in contrast it was not until the 22nd that the last Waxwings left Bookham Common for northern forests. Spring passage of Black Terns began on the 24th but it was intermittent until May. On the 28th no less than 12 Curlew were seen flying over Hyde Park.

A north-westerly airstream over the London Area from May 4th to 7th precipitated a large broadfront movement of hirundines, noted from Swanscombe to Staines and further west. At the same time it seems likely that many Black Terns moved in Southern England and the seventeen days following the 9th were made very exciting by the passage of successive waves of these birds moving out of the country through the London Area. It was a heavy movement, the second largest on record, and on the 23rd at least 100 were seen in the Lea Valley. The year's second Hoopoe at Beddington S.F. from May 11th to 13th was another continental species adrift at this time. A passage of Sanderlings throughout the period of

Black Tern movements is clearly linked to these records as is the generally wide distribution of other northern waders from the 8th to 27th. A Roller, the first to be accepted as occurring wild in the London Area, appeared at Oxshott on the 23rd staying until the 29th. Rare birds are not always as obliging as this. An observer at Crouch Hill on May 21st heard a strange call, looked up and saw six wader-like birds with long tails and buoyant flight action flying to the east. He remains convinced that they were in fact his first-Pratincoles, but unfortunately the lack of details precludes their complete acceptance by the Records Committee.

Records of Garganey were frequent during May and this species could be said to have been widespread by the end of the month. A pair of Wheatears present at Cripplegate since April 14th were deprived of a possible nest site by its complete demolition on May 10th and consequently disappeared. Not so a Fieldfare, which arrived at Beddington S.F. on the 17th and stayed on to enjoy the summer, being last seen on August 16th.

JUNE AND JULY

The beginning of June brought the peak in the spring passage of Ringed Plover, with 53, presumably of the Arctic race, at Perry Oaks S.F. on the 2nd. This species also deserves mention when the 1959 breeding population is considered, for no less than three pairs bred at Swanscombe. This constitutes only the second breeding record in recent years. Other species for which a considerable breeding success can be noted are Barn Owl and Swift, the former apparently regaining some of the ground lost in previous years and the latter benefiting from the exceptional summer as might have been expected. Grasshopper Warblers were widespread, but it is not known if any young were reared in any of the fifteen localities tenanted by singing birds. Eighteen pairs of Red-backed Shrikes were reported; a special inquiry sponsored by the British Trust for Ornithology was directed at this species in 1960. No significant reduction was noted in the Black Redstart population; on the other hand the scarcity or absence of Wood Warblers was widely commented on. Two individual breeding records are of exceptional interest as they indicate attempts to repenetrate the Metropolitan Area by species previously lost to it. These are of Bullfinch in Regent's Park and Yellow Hammer on Hampstead Heath.

In early June a pair of *flava* wagtails, the cock of which resembled the Ashy-headed Wagtail, was found at Perry Oaks S.F. They were seen tending young by several observers, who can feel privileged since the only previous breeding attempt by birds resembling this form was in Ulster in 1956. An interesting series of Lapwing movements fully described in the Systematic List began on June 11th continuing until the start of their autumn migration. The increasing summer population of the two common diving ducks hatched many broods in this month and in July, while the successful rearing of two young Hobbies was a most encouraging final event to the breeding season. July also produced the year's only record of Cirl Bunting, a cock at Hilfield Park Reservoir on the 20th. Before this date however migrants were again claiming observers' attention for the

last fortnight of the month was the period of peak passage of Wood and Green Sandpipers with an associated movement of Black-tailed Godwits from the 19th to the 30th. On the latter date a family of Reed Warblers appeared in Regent's Park.

AUGUST TO MID-OCTOBER

Nocturnal arrivals of passerines into Inner London became frequent from August 3rd and it is clear that if regularly watched, the central parks could produce important observations on this still fascinating phenomenon. On August 5th a Bittern was flushed from the edge of Brent Reservoir. Wader passage continued. Garganey also became prominent by the middle of the month. On the 16th, proof that Shelducks had bred successfully at Swanscombe was obtained constituting another important breeding record. Throughout the month Curlew Sandpipers were prominent in the Thames Estuary though surprisingly absent inland. On the 22nd a Honey Buzzard flew south over Esher Common and on the next day, the first of the year's two Spotted Crakes was seen at Brent Reservoir. Another rare bird turned up three days later, a Temminck's Stint which stayed at Rainham Marsh from the 26th to 30th.

Wader passage was again prominent in early September with easterly winds bringing in larger numbers than usual of the high Arctic species. On the debit side was the fact that a comparatively small flock of 44 Little Grebes at Rye Meads S.F. on the 2nd was the largest recorded in the London Area during the year. A Marsh Tit took up temporary residence at Cripplegate on the 10th, but even this interesting forerunner of the tit irruption noticeable later in the month paled into insignificance with the discovery of a Great Snipe at Ponder's End S.F. on September 12th. It stayed for five days and two independent series of notes established its identity beyond doubt. The observers concerned were later to repeat their interesting find. No fewer than eight Sandwich Terns were seen at Queen Mary Reservoir on the 13th. On the 17th an influx of Pied Flycatchers, including seven on Hampstead Heath, coincided with the first records of diurnal migration, later a pronounced feature of the autumn. The next passerine of rarity status to be recorded was however a nocturnal migrant, an Aquatic Warbler trapped at Beddington S.F. on the 20th. The day before a Red-crested Pochard had been found at Nazeing G.P. Throughout Britain, September excelled its already established reputation and when viewed against the national picture, the year's second Roller at Staines on September 26th was perhaps only part of our due. From the 23rd, Goldcrests joined Chiffchaffs in their passage through Inner London and a further movement of Pied Flycatchers occurred. It is interesting to note that by this time an early Snow Bunting had been present at Fisher's Green G.P. for several days.

Nocturnal migration of summer visitors ebbed quickly in October, but another Spotted Crake was seen at Leatherhead on the 3rd. What were probably its remains were found at the same place on November 7th.

MID-OCTOBER TO DECEMBER

Between October 14th and 19th, Grey Phalaropes appeared in four places and one Red-necked Phalarope was seen at Rye Meads S.F. In sharp contrast to these records was the presence of a late Black Tern at Staines Reservoir from the 18th to 25th, but two wrecked Puffins found on the 20th might well have been brought by the weather connected with the Phalarope arrival. The third week of the month saw the return of 26 Ruffs to Perry Oaks S.F., where they spent the rest of the year, and also provided a count of Great Crested Grebes that broke all previous records. On the 18th, 1,245 were counted on the census waters.

Mistle Thrushes were on the move at this time and several other unusual migrants, such as Goldfinch, were moving by the end of the month. On the 27th a Storm Petrel was carefully identified at King George VI Reservoir, but on the last three mornings of the month the diurnal movements of passerines monopolized the attention of many observers. The results of several timed counts were capable of analysis and quantitative summaries of certain species' movements are included in the Systematic List.

Heavy diurnal passage continued in the first week of November, but three records of oceanic and maritime species deserve individual mention. On the 1st, observers at Queen Mary Reservoir had the incredible good fortune to see both Leach's Petrel and Purple Sandpiper; those at Staines on the same day had to make do with only one rarity, but it was a Little Auk! Even Inner London provided an exceptional record on the 1st, a party of four geese flying south over Regent's Park. The same locality was visited briefly by a wild swan on the 4th. Passage of corvids was noted on the next four days, the majority of the smaller diurnal migrants having already gone on their way. A Red-crested Pochard was found at Hilfield Park Reservoir on the 8th; it may have been the same bird seen earlier at Nazeing G.P. and records of this species must still be treated with caution, in spite of their common occurrence as wild birds in Essex. The 8th also saw the start of another wave of tit movements, lasting until the 15th. On the 14th, a Glaucous Gull came in to roost at King George VI Reservoir and continued to do so until the year end. Later in November, Siskins began to appear in larger numbers than usual and a few Little Gulls lingered at Middlesex waters.

The first record of interest in December was a very late Sand Martin at Walthamstow Reservoir on the 8th, the second was a Slavonian Grebe in the same place on the 12th. This species seems to have been becoming scarcer in the last four years. On the 13th an observer at Ruxley G.P. was treated to a flypast of 21 Brent Geese, the largest number ever recorded in the London Area. By this time at least three Chiffchaffs were in winter habitats near London, frail inhabitants of any area, visited simultaneously by a Long-tailed Duck, which was at Hilfield Park Reservoir from the 20th onwards, and Black-throated Divers at Staines and Queen Mary Reservoirs on the 27th. Interesting as these were, the last mention in this narrative must be of the year's second Great Snipe at Rye Meads S.F. on Boxing Day, a remarkable reward for the same Lea Valley enthusiasts who found the September bird.

ACKNOWLEDGMENTS

The Records Committee wishes to thank all who have contributed to this report and they welcome all new members to the Society, inviting them to join the others already engaged in the important task of watching over the birds of the London Area. The Editor gratefully acknowledges much help from all the members of the Records Committee, especially P. A. D. Hollom, R. C. Homes who contributed the sections in the Systematic List based on the wildfowl census, F. H. Jones and the Recorders. During the lengthy production of this report, the following gave help whenever it was requested: L. Baker, Mrs. A. T. Horton, E. J. Hosking who kindly loaned the photograph, Miss P. Masters, E. R. Parrinder, Mrs. W. Roberts, Mrs. L. M. P. Small and Miss J. Small. I thank them all.

Assistance, especially in the exchange of records and information, was given freely by the Editors of *British Birds*, the officers of the British Trust of Ornithology, the Essex Bird Watching and Preservation Society, the Hertfordshire Natural History Society, the Kent Ornithological Society, the Surrey Bird Club, the Zoological Society of London and the Committee on Bird Sanctuaries in the Royal Parks. Members also have to acknowledge many kindnesses from the Metropolitan Water Board, the London County Council, the Croydon Corporation and Harlow Development Corporation.

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BIRDS OF THE LONDON AREA, 1959

A REPORT OF THE BIRD LIFE WITHIN TWENTY MILES OF ST. PAUL'S CATHEDRAL

THIS report follows the British Ornithologists' Union's "Check-List of the Birds of Great Britain and Ireland" (1952) based on the Wetmore classification, and the numbers preceding each species refer to that List where the full scientific name will be found. The vernacular names are those adopted by the Editors of *British Birds* magazine as announced in the January, 1953, issue (Vol. XLVI, p. 1).

All records are for 1959 except where otherwise stated. The initials following each record refer to the observer(s) responsible for it, whose name(s) may be obtained by reference to the list of contributors on page 8.

The six counties within the circle of twenty miles radius are indicated by their initials, *viz.*:—B=Bucks; E=Essex; H=Herts; K=Kent; M=Middlesex; S=Surrey. Several of the Lea Valley reservoirs are partly in Middlesex, but all records referring to them are published under Essex, following the policy adopted by W. E. Glegg in his histories of the birds of Essex (1929) and Middlesex (1935). The following abbreviations are also used:—*B.B.* = *British Birds* magazine; *L.B.R.* = *London Bird Report*; G.P. = gravel pit; Res. = reservoir; S.F. = sewage farm; N., E., S., and W., are used for the cardinal points of the compass, but are intended only to indicate the general direction of flight.

An open map of the London Area will be found useful for a full appreciation of many of the records. As the history of some of the species is intended to be continuous, reference to the Society's book *The Birds of the London Area since 1900* and to the systematic list of previous issues of the *L.B.R.* is recommended.

Records which have been published in the *Essex Bird Report*, 1959, are indicated by an asterisk which is placed by the particular record or, where all records of a species have been published, by the county initial "E".

1 Black-throated Diver

M Queen Mary Res., one from Nov. 15th to Dec. 27th (BEC, JFC, MJC, DJG, SG, BAM). Staines Res., one on Dec. 27th (PRC *et al.*).

4 Red-throated Diver

E* Banbury Res., an oiled bird was seen on Feb. 7th was found dead at Girling Res. on the next day (JF). Girling Res., one on Feb. 17th (BSMs) and an oiled bird on Mar. 1st (JCE); both later found dead.

5 Great Crested Grebe

In "Great Crested Grebes in the London Area in Autumn and Early Winter" (*L.B.R.* for 1953: 60-1) a comparison was made between the numbers of this species then and before the war. There appeared to have been no great change although the waters most favoured tended to vary from year to year. On the same waters as were used for comparison (King George V, Barn Elms, Molesey, Queen Mary, Staines and King George VI reservoirs) the following table gives the numbers during the last three series of wildfowl counts:

	1957-58		1958-59		1959-60
Sept. 22	333 (excl. Queen Mary)	Sept. 14	623	Sept. 13	? but 650 at Queen Mary alone
Oct. 20	584	Oct. 12	631	Oct. 18	1013
Nov. 24	472 (excl. Staines)	Nov. 16	?	Nov. 15	? but 670 at Queen Mary alone
Dec. 22	408 (excl. K.G. VI)	Dec. 14	640	Dec. 13	?
Jan. 19	?	Jan. 18	778	Jan. 17	404
Feb. 16	341	Feb. 15	995	Feb. 14	?

From these figures and those for the rest of the Area it is evident that in the last two of these winters there were far more Great Crested Grebes throughout the winter than usual, at times probably twice the normal figure. It is very unusual for numbers to be at a peak in February, as in 1959. For future record the following minimum numbers for *all* waters in the wildfowl counts from September to February as above are of great interest:—

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
1957-58	529*	763	641*	575*	?	325
1958-59†	702	692	?	676	797	1020
1959-60	775*	1245	1080*	898*	487	734*

* one or more major waters omitted

† all in this winter excl. Walthamstow Res.

Inner London records are given in full.

- M Kensington Gardens, single birds on Apr. 9th, June 30th and Aug. 6th (CHH, ABMM, JHFM, CHFP).

7 Slavonian Grebe

- E* Walthamstow Res., one on Dec. 12th (JF, RFP).
 M King George VI Res., one from Nov. 8th to 23rd (PRC, REE, BEN *et al.*).

8 Black-necked Grebe

- E* Girdling Res., single birds on Aug. 5th and 27th, Nov. 27th and Dec. 13th, 26th and 27th (RB, JCE, BSMS, RFP). Walthamstow Res., single birds on Aug. 24th and Nov. 29th (RB). Nazeing G.P., one on Apr. 21st (BSMS).
- H Hilfield Park Res., single birds on May 31st (JFCd, RAC) and Sept. 18th (EHW). Rye Meads S.F., one on Sept. 20th (TWG).
- M Brent Res., single birds on May 25th, from July 2nd to 19th and from Aug. 23rd to Aug. 29th (LAB, PLB, MDK). King George VI Res., single birds from May 3rd to 15th (LAB, BEC, AQ, DIMW), and from May 31st to June 17th (BEC, SG, DGH, AQ); frequently seen from Aug. 3rd to Dec. 27th with a maximum of nine on Oct. 31st (many observers). Queen Mary Res., up to three from Aug. 23rd to Oct. 10th (many observers). Staines Res., single birds on Sept. 16th, Oct. 25th and Dec. 30th (JHB, BEC, JGL).
- K Danson Park, one from Jan 3rd to 10th (FJH, RVW).
- S Barn Elms Res., one on Jan. 12th (DEDC). Gatton Park, one on Nov. 5th (HB). Molesey Res., one from May 13th to 16th (BEC, SO)

9 Little Grebe

The largest flock reported was one of 44 at Rye Meads S.F., Herts., on Sept. 2nd (LLE). Two records for Inner London are given below.

- M Inner London: Regent's Park, one on Sept. 28th (EHW). Kensington Gardens, one on Oct. 20th and 21st (RES).

12 Leach's Petrel

Queen Mary Res., one on Nov. 1st (many observers). Detailed descriptions have been received.

14 Storm Petrel

King George VI Res., one on Oct. 27th (MM, MRN). Full supporting details, including a sketch, have been received.

28 Cormorant

A further increase in numbers at King George VI Res., Middx., with up to 86 present in January and February and 59 by Dec. 27th (CAW *et al.*). These birds normally roosted on the reservoir, being joined by others from the waters to the south at dusk, but from February to mid-April up to 79 were found roosting in a dead elm at Wraysbury G.P., Bucks (DGH).

- S Inner London: Lambeth Palace, two immatures flew south on Nov. 2nd (GHG).

29 Shag

- E* Banbury Res., one from Jan. 10th to 17th (RB, JF, RFS).
- M King George VI Res., one on Jan. 18th (many observers).
- S Barn Elms Res., an immature bird first seen on Dec. 18th was found dead on Jan. 10th, 1960 (many observers).

30 Heron

The number of occupied nests at the five known heronries was 188, an increase of 15 on the figure for 1958 but still 7 below that for 1957.

- E* Little Parndon, five occupied nests (FHJ). Walthamstow Res., 69 occupied nests (AG, JLFP, PFCR).
- M Kempton Park Res., 91 occupied nests (EMG). Inner London : one or two throughout the year in St. James's Park (where three birds were also found dead), frequently seen in Regent's Park and occasionally in Hyde Park, Kensington Gardens and in flight over five other localities, being most obvious in October (many observers).
- S Gatton Park, 16 occupied nests (HB). Richmond Park, seven occupied nests (EDB, VFH *et al.*).

38 Bittern

- M Brent Res., one on Aug. 5th (LAB).

DUCKS

As no report of the wildfowl counts has been published since "A Ten Year Review of Ducks in the London Area" (Homes, 1958, *L.B.R.*, 22: 36-49), a brief summary for the winters 1957-58, 1958-59 and 1959-60 is included under the principal species in heavy type. The terms *monthly average* and *winter average* are used as defined in the paper quoted, to which reference should be made for comparison. It should be emphasized that the summary is based on counts on selected waters about the middle of each month from September to March, and is intended to show trends and not to be a complete census for the whole area. Higher numbers may of course be present on intermediate dates. The same standards of interpolation where necessary have been used as in the review cited.

45 Mallard

There has been a further slight increase on the peak mid-winter numbers reached in 1956-57, with *very* much higher numbers in October, in which month counts of 4,795, 5,309 and 5,855 in the last three winters compare with an average for October of 3,092 in the period 1948-49 to 1953-54; no valid counts for October are available from 1954-55 to 1956-57. As a result of omissions of important waters in 1957-58 the best count has 15% interpolation and is of 5,674 in December, between the two previous best counts for December. However, in 1958-59 the winter average of three counts was also 5,674, a rise of over 4% on the previous highest average. The only two valid winter counts for 1959-60 average 5,705. Highest monthly counts in the last two winters were 6,344 and 6,136, compared with a previous peak of 6,073.

46 Teal

Since the high levels of 1954-55 to 1956-57 there has been a considerable decline, winter averages of 571 in 1957-58 and

458 in 1958-59 comparing with 776, 835 and 845 in the three previous winters. The only two valid counts in 1959-60 averaged 612.

Breeding and June records only are given in full.

- E* Fishers Green G.P., one pair bred (BSMs).
- H Rye Meads S.F., one pair throughout summer and breeding strongly suspected (BSMs).
A pair was seen at Island Barn Res., Surrey, on June 11th and 23rd (BEC, JFC), and nine were seen at Rainham Marsh, Essex, on the 14th (JHB).

47 Garganey

A completely unprecedented number of records, both of passage and summering birds, and undoubtedly linked to the remarkable influx of this species noted in England during the spring of 1959.

The first arrivals, two drakes and a duck, were noted at Walthamstow Res., Essex, on Mar. 15th. A pronounced passage began on Mar. 24th and from then until Apr. 21st small numbers (up to nine) were recorded from fifteen localities throughout the area, except in Kent. The autumn return became evident on July 15th, reaching a peak in mid-August, when *c.* 20 were seen at Swanscombe Marsh, Kent, on the 25th and 11 at Brent Res., Middx., on the 17th. Records of smaller numbers from July to September were submitted for the two localities above and thirteen others; three at Hilfield Park Res., Herts., on Oct. 4th were the last birds of the year.

Records of breeding and summering are given in full.

- E* Nazeing G.P., up to three in late May and June (TWG, BSMs, BSN). Rainham Marsh, a pair on June 14th (JHB). Snaresbrook, a drake on Hollow Pond on May 24th (DWA). Wanstead Basin, a pair throughout June (CLD, FRT).
- H Broxbourne G.P., a duck with seven ducklings on May 14th (TWG) and up to three adults throughout May and June (TWG, BSMs, BSN). Broxbourne S.F., an adult with two "young of the year" on July 6th and 8th; a few adults, possibly the same as those seen elsewhere in the Lea Valley, earlier in the summer (TWG). Rye Meads S.F., two or three drakes on several dates in May and June (TWG).
- M King George VI Res., a drake on May 23rd (SG). Stanwellmoor G.P., a pair from Apr. 12th to May 21st (seven observers) and three drakes on May 19th (BAM).
- S Brooklands, a drake on River Wey on June 14th (GHG).

49 Gadwall

All records are given.

- E* Girling Res., one on Jan. 11th (JCE, DK). King George V Res., a pair on Jan. 17th (BSMs). Walthamstow Res., a drake on Feb. 14th (JF).
- H Hilfield Park Res., single birds on July 25th and Oct. 18th (BLS). Rye Meads S.F., a pair on Apr. 18th (BSMs).

- M Brent Res., a pair from June 2nd to 27th (LAB, PLB). King George VI Res., a pair on Jan. 18th (BAM), a drake from Jan. 25th to Mar. 30th was also seen at Staines Res. on Apr. 1st (seven observers), three on May 23rd (CMV) and five on Aug. 20th (JFC). Queen Mary Res., up to three from Jan. 18th to Apr. 5th (BEC, PRC, BAM, AQ), single birds on Aug. 9th and Sept. 20th (BEC, RWR).
- K Swanscombe Marsh, single birds on Aug. 25th (RJF) and on a date between Sept. 9th and 20th (SB).
- S Barn Elms Res., recorded in all months except June and July. maxima 14 on Jan. 23rd and Dec. 30th; breeding did not occur (many observers). Lonsdale Rd. Res., one on Jan. 4th (DIMW). Richmond Park, up to seven in February and up to ten from early September to Nov. 8th (many observers); comparison of the numbers of birds at this locality and Barn Elms Res. shows that the same flock is involved. Cobham, two at Silvermere on Sept. 13th and Oct. 3rd (GHG).

50 Wigeon

Numbers seem to have been maintained in 1957-58 at about the previous highest level, which was in 1956-57, but there was then a marked decline. An average of 140 in 1958-59 represented a fall to about the lowest level of the previous ten years. Counts in 1959-60 were rather incomplete but suggest a further drop in the average, although there were more again in the early winter, notably about 200 at King George VI Res. on Nov. 11th.

A pair and an odd drake were frequently seen on King George VI and Staines Reservoirs, Middx., throughout May, but could not be found after June 7th (BEC, DGH, CMV, DIMW).

52 Pintail

All records are given.

- E Girling Res., a drake on Feb. 1st and 3rd (JCE, BSMs). King George V Res., nine on Jan. 24th and a drake on the 31st (BSMs, RFS).
- H Hilfield Park Res., one on Dec. 6th (EHW). Hyde Crete G.P., a duck on Sept. 26th (BPP).
- M Brent Res., one on Sept. 5th (JHB, GOW). King George VI Res., a drake flying west on Feb. 1st (CAW), single ducks on May 6th (DIMW) and on Oct. 31st, Nov. 15th and 22nd (BEC, JFC, SG, AQ), a drake on Nov. 15th (JFC, SG). Southgate, a drake in Grovelands Park on May 5th (BSMs).
- S Lonsdale Rd. Res., a duck on Jan. 4th and Feb. 28th (CLD, MDK). Walton Res., a pair on Mar. 1st (DP).

53 Shoveler

This was one of the few species whose numbers did not increase in the course of the ten years previously reviewed. In the last three winters they have again been low and no complete *winter* count has exceeded 68, although in the late

autumn of 1959 there were 174 on Oct. 18th, a figure only once exceeded on a previous official count—in March 1949. Both these high figures were of course during the passage period for Shoveler, and do not represent a winter population.

Breeding season records are set out in detail.

- E* Rainham Marsh, a pair on June 14th (JHB).
- H Broxbourne S.F., a duck on July 13th (BSN). Rye Meads S.F., a pair bred, rearing three young, the family remaining on the farm until late August (TWG, BSMS, BSN). This is the first breeding record for Hertfordshire within the London Area.
- M King George VI Res., a duck with two ducklings on July 26th (BEC, SG, AQ).
- S Barn Elms Res., a duck with two full grown birds of the year on July 19th (CDJ, SK); this species does not breed at Barn Elms.

54 Red-crested Pochard

Regardless of the fact that wild birds do occur in Britain every year and are most frequent in Essex, records of this species in the London area are still open to doubt. Pinioned adults in the Inner London parks frequently rear full-winged young, and it is known that these wander considerably throughout the centre of the area. The records detailed below may be of wild birds, possibly the same individual in both cases.

- E* Nazeing G.P., a duck from Sept. 19th to Oct. 31st (BSMS).
- H Hilfield Park Res., a duck from Nov. 8th to Dec. 25th (JFC, RAC, BLS).

55 Scaup

- E* King George V Res., two on Jan. 10th, one on the 11th and Feb. 14th (DK, BSMS, RFS). *Walthamstow Res., one on Jan. 17th, Feb. 8th and 14th (JF, RFP). Barking, five drakes on Ripple Level on Feb. 9th (KB).
- H Hilfield Park Res., single birds (of both sexes) on Mar. 26th, Oct. 4th and 30th, Dec. 26th and 27th (LAB, BLS, EHW).
- M Brent Res., a pair from Sept. 15th to 20th (LAB, PLB, MDK), single ducks on Nov. 1st and Dec. 8th (PLB). Queen Mary Res., a duck from Mar. 8th to 30th (BEC, JFC, CMV). Staines Res., a drake and duck from January to Mar. 1st, the former staying until Apr. 12th, a duck from Dec. 20th to 31st (many observers). Inner London: Kensington Gardens, one on Dec. 30th and 31st (JHFM, RES); St. James's Park, one from Feb. 25th to Mar. 9th (ABMM).
- K Ruxley G.P., one on Jan. 10th and Dec. 20th (FJH).
- S Hammersmith, a duck on the Thames on Jan. 18th (PJO). Island Barn Res., one on Nov. 28th (DP). Molesey Res., a drake on Dec. 13th. Richmond Park, a duck on Mar. 7th (CLD). Walton Res., one on Nov. 24th and a drake and an immature on Dec. 24th (JFC, DP).

56 Tufted Duck

In 1957-58 numbers in October were slightly above normal, rising to a winter average of 3,758, only a little less than the previous highest average of 3,877. The peak of 4,245 was also higher than in any other winter except 1955-56. No full counts are available for 1958-59, but the figures we have suggest much higher numbers than usual in September-October, but lower in mid-winter. In 1959-60 there were phenomenal numbers in summer and autumn. By July 26th, 1959, there were 1,020 at Queen Mary and Molesey alone, rising to 1,140 on Aug. 9th and 1,546 on the 23rd. There was evidence of a lot of interchange between the two localities. Queen Mary had 1,233 on Aug. 16th, but only 10 on Oct. 18th, when there were 2,167 at Molesey alone. Totals on all the waters counted were 3,064, 3,732 and 4,778 in October, November and December respectively, and the winter average was 3,979, slightly higher than the previous record. After the build-up at Molesey there was no subsequent hard weather influx on a large scale, but even so the highest count fell short only of the huge numbers in the early months of 1956.

Breeding season records are given in full.

- E/H* Lea Valley, no less than 33 pairs summered, of these 17 are known to have reared young; at least 19 other birds, mainly drakes, were present in mid-June in Herts. (many observers).
- M Queen Mary Res., five nests with eggs were found by BEC, but only one brood was seen, on Aug. 9th. Stoke Newington, six pairs bred at Clissold Park: of 37 young hatched, 30 survived (JHB). Inner London: breeding took place at Kensington Gardens (three pairs), St. James's Park and Regent's Park; at the latter locality, of 12 young hatched by five wild pairs, only eight survived (many observers).
- K Danson Park, a pair on May 23rd (RVW). Darenth G.P., four pairs on May 9th (FJH). Ruxley G.P., two pairs summered (FJH).
- S Fetcham Mill Pond, at least one pair summered (GMC, MJC). Gatton, three pairs bred (HB, AWB, SDGS). Kew Gardens, up to ten pairs in June, but only one brood seen in July (PLB). Richmond Park, up to nine pairs in June, but only two broods seen in July (PLB, VFH *et al.*).

Two ducks ringed at Walton Res., Surrey, on Feb. 1st and 3rd, 1958, were recovered in the district of Turku Ja Pori, Finland, in the spring of 1959.

57 Pochard

After the steep rise in numbers from 1952-53 to 1956-57, unfortunately the only complete counts in 1957-58 were in October and February. These showed a falling off, but were evidently not typical of the winter as a whole, as on three occasions there were flocks of 400 at King George V Res.,

one of 543 at Walthamstow Res. on Dec. 22nd, and steadily rising numbers at Nazeing G.P. from a winter normal of about 300 to 1,103 on Jan. 13th, 1958. The figures for 1958-59 are again incomplete, but in early 1959 the flock at Barn Elms increased to about 900 on Jan. 13th, remaining at a high level for some weeks, the total for those waters counted in mid-January being over 1,500. In 1959-60 numbers were again high in mid-January, when there may have been as many as 1,800, though this figure contains too much interpolation to be more than an indication—1,476 were actually counted. Despite the impossibility of calculating valid winter averages for these three winters, peak numbers evidently compared well with the previous increased level of winter population, though in each year there were less than usual in the early part of the winter.

Breeding records are given in full.

E/H* Lea Valley, no less than 11 pairs summered, but only one reared young, at Cheshunt G.P., Herts. (many observers).

M Inner London: Kensington Gardens, one pair bred, rearing four (CHH, CHFD). Regent's Park, ducklings from five separate broods were seen, 12 surviving from 27 hatched (DIMW). Stoke Newington Res., one pair summered (JHB).

60 Goldeneye

There is no evidence of any change in numbers, the *average* winter figures for the area remaining at a little over 40, although there have on occasion been as many as this at Staines Res. alone.

Recorded at 12 waters throughout the London Area up to early May, with an early peak in numbers at the end of January, including 27 at Queen Mary Res., Surrey, on the 24th; maximum numbers occurred in the Lea Valley in late February, including 35 at Girling Res., Essex, on the 24th and at the Staines and Queen Mary group of reservoirs in mid-March, including 36 at Staines Res., Middx., on the 14th; the main departure took place in the third and fourth weeks of March, although small numbers remained at three localities up to Apr. 19th; one late bird at Nazeing G.P., Essex, on May 2nd. The late autumn return to 10 waters was first noted on Oct. 10th, but no significant numbers appeared until the end of November and early December, the largest flock in the latter month being 20 at King George VI Res., Middx., on the 30th.

61 Long-tailed Duck

H Hilfield Park Res., an immature from Dec. 20th to 31st (LAB, MDK, BLS, EHW).

62 Velvet Scoter

M Staines Res., a drake on Jan. 31st (JBC).

64 Common Scoter

- E* Nazeing G.P., a duck on Feb. 22nd (BSMs). Walthamstow Res., a duck on Apr. 18th and 19th (CLD, RFP). Wanstead Basin, a drake on May 25th (FRT).
- H Hilfield Park Res., a drake on Aug. 8th (BLS).
- M Brent Res., three on Apr. 3rd and a drake on Nov. 25th (LAB, PLB). Kempton Park Res., a drake on Mar. 21st and a duck on Nov. 28th (AJC). Queen Mary Res., two drakes on Mar. 8th and one on Apr. 19th (BEC, JFC, SG, AQ). Staines Res., a duck from Jan. 1st to Apr. 26th (many observers), another duck present on Feb. 7th (BEC) and a drake on Mar. 29th, 30th and Apr. 1st (LAB, JFC, FHJ, CAW). Stoke Newington Res., a drake on Nov. 1st (DIMW).
- S Barn Elms Res., two ducks on Apr. 12th, one on the 13th (MDK, SK, KVE). Molesey Res., a drake on Mar. 14th (SG). Walton Res., a duck on Apr. 11th (BEC, AJC, SG).

69 Red-breasted Merganser

- E Girling Res., a drake on Feb. 22nd (DK). *King George V Res., a duck first seen on Jan. 24th was found dead on the 31st (CLD, BSMs), a drake on Feb. 22nd (PJF). *Nazeing G.P., one on Feb. 8th (TWG). *Walthamstow Res., a duck on Jan. 31st (CLD).
- H Hilfield Park Res., a duck on Jan. 10th (EHW).
- M Queen Mary Res., a duck on Jan. 24th (CMV), a drake on Feb. 1st (HWR), a drake on Dec. 6th (BAM) and a duck or immature on the 13th and 19th (BAM, AQ). Staines Res., a drake and one or two ducks from Jan. 1st to Mar. 22nd and from Dec. 6th to 30th (many observers).
- S Molesey, Chelsea and Lambeth Res., a duck on Jan. 11th (AQ). Walton Res., a duck or immature on Dec. 12th (SG, DJH, DP).

70 Goosander

The average for the winters 1954-55 to 1956-57 was 245 compared with 137 for the winters 1947-48 to 1952-53. For the last three winters the number of complete counts is very few, but on the basis of minimum figures the averages are 309 (two counts), 193 (four counts, but the highest of 342 includes 55 birds at Queen Mary where the count was made seven days previously) and 329 (four counts, one excluding Staines and another of 468 including 245 counted at Queen Mary on the previous day). If no overlap resulted from this discrepancy of date then 468 would be the maximum post-war count. Even allowing for possible errors and overlap the trend towards a slight increase would seem to be confirmed.

Recorded at 12 waters throughout the London Area up to the third week of April, with the winter population at a maximum from the second week of January to the end of February; the largest flocks reported were c.140 at Molesey Res., Surrey, from Jan. 10th to

Feb. 15th, from 60 to 80 at Staines Res., Middx., in the same period and 37 at King George V Res., Essex, on Jan. 24th; departures began in early March and it is probable that *c.*180 had left London waters by Mar. 15th; in late March and early April small numbers were seen at three waters, the last bird being recorded at Staines on Apr. 21st.

Forerunners of the early winter return appeared at Barn Elms, Res., Surrey, on Nov. 8th, but at Staines Res., Middx., none was reported until Nov. 14th; the first noticeable influx to 12 waters took place immediately prior to or on Nov. 21st and 22nd, but the bulk of the population did not return until the second week of December, the largest flocks reported (all on Dec. 12th) being 112 at Molesey Res., Surrey, 23 at King George V Res., Essex and *c.*150 at the Staines reservoirs, Middx.; by Dec. 25th the numbers at Queen Mary Res., Middx., had risen to 235 (the flock having recruited some of the Molesey birds) while at Staines 115 were present, giving a total of 350 for the main Middx. waters alone. Probably not more than 50 were present elsewhere in the area at this time.

71 Smew

The previous review showed that calculation of winter averages was impossible for this species owing to the short stay and suggested that a comparison of winter peaks was more profitable. On this basis there has been a marked drop in numbers, with the highest figure on any practically complete count being 70 on Jan. 17th, 1960.

Recorded at 15 waters in the London Area (excluding Kent) in January and February, with population at maximum in the third week of January, including the second largest flock of the year, 37 at Stoke Newington Res., Middx., on the 18th; in February numbers decreased in Surrey and at the Staines reservoirs, Middx., but increased at Brent Res., Middx., where 35 were seen on the 22nd. In March large numbers were only recorded in Herts., maximum 28 at Hilfield Park Res. on the 8th, and as many as 20 were present there and at Aldenham Res. as late as the 22nd, by which date this species was absent from the rest of the area, apart from one at Walthamstow Res., Essex, up to Apr. 4th.

None returned to London waters before November, the first bird being recorded at Staines Res., Middx., on the 15th, with further arrivals on the 21st; the main influx was either immediately prior to or on Dec. 12th, when 43 were seen at Staines reservoirs; numbers in that area were lower by Dec. 24th, but the flock at Barn Elms Res., Surrey, had risen by Dec. 25th to 47, the largest number of the year at any locality; on Dec. 26th, 27 were at Stoke Newington Res., Middx.

In view of the rarity of this species in the Kent part of the London Area, records for that county are given in full:—

K Danson Park, one from Jan. 3rd to Feb. 13th (FJH, RJF, RVW). Ruxley

G.P., one on Jan. 31st and Feb. 15th (FJH). Stone, three on Jan. 25th (FJH).

73 Shelduck

- E* Banbury Res., one on Jan. 17th (ARM). Girling Res., three on Dec. 8th (RB, CLD). King George V Res., two on Mar. 22nd (BSMs). Walthamstow Res., one on Apr. 26th and three on Oct. 31st (JF). Rainham Marsh, two on June 14th and eight on Aug. 27th (JHB).
- H Hilfield Park Res., four on Mar. 21st and 22nd and Apr. 5th, single birds on July 20th, Aug. 11th and 26th (DHP, EHW). Rye Meads S.F., one on July 4th (BSMs).
- M Brent Res., seven flew west on Mar. 30th, single birds on May 25th and from Sept. 3rd to 6th (PLB *et al.*). King George VI Res., single birds on May 24th and Sept. 13th (LAB, BEC). Queen Mary Res., single birds on Jan. 24th and Feb. 28th (BEC, CMV), two on Mar. 25th (MDK). Staines Res., five on Feb. 22nd (JBC, DGH). Ashford G.P., one on Aug. 3rd (EAB).
- K Swanscombe Marshes, present from Mar. 7th to Sept. 9th, certainly one and possibly two pairs bred, at least 12 young were hatched but only seven juveniles were present on Aug. 16th, up to ten adults in latter half of year (WIB, RJF, FJH, CDJ).
- S Lonsdale Rd. and Barn Elms Reservoirs, one, the same bird as that originally reported on Nov. 13th, 1958 (see *L.B.R.* 1958, p. 17), continuously present up to Mar. 29th, when it was found dead (many observers). Barn Elms Res., three on Dec. 12th (SK). Island Barn Res., one on Oct. 5th (PJHn). Walton Res., one on Oct. 11th (PJHn). Molesey S.F., one on Dec. 12th (DP).

GEESE

Four species were satisfactorily identified during the year, the records of Brent Goose and Barnacle Goose being of particular interest.

76 White-fronted Goose

- E* Girling Res., three came in from N. at 16.00 hrs on Jan. 13th (BSMs). Chigwell, one flying E.N.E. on Nov. 12th (RB).

75-78 Grey Geese

- M King George VI Res., 11 flying west on Jan. 24th (PSF), seven flying W. on Mar. 8th (BEC, JFC, SG, AQ). Southgate, 10 probably White-fronts flying S.W. on Jan. 10th (BSMs).
- S Dulwich, at 23.25 hrs on Dec. 28th, a party passed over from N.E. to S.W. (IRB).

80 Brent Goose

- K Ruxley G.P., 21 flying S. on Dec. 13th (FJH). This is the largest flock ever reported in the London Area and the first record of this species since 1950.

81 Barnacle Goose

- S Beddington S.F., on Apr. 5th four flew from S.E. but did not alight, departing to N.N.W. (VAG, PJW). There is only one previous record of undoubted wild birds this century.

82 Canada Goose

- E Walthamstow Res., one pair successfully reared two young out of five hatched, the adults were later shot (JF, RFS, FRT).
 M Queen Mary Res., two from July 5th to Aug. 23rd (BEC, MJC, SKR). Fulham, two flying S. on May 10th (PJS). Inner London: Regent's Park, at least three pairs of those introduced in recent years bred and a total of 32 were present in July, many of which were left unpinioned (DIMW).
 S Leigh Mill Pond, Godstone, two from Mar. 25th to May 10th, but no evidence of breeding (ADB, HFG, SDGS). Painshill Park, Cobham, two pairs on Apr. 5th, one bird on a nest (DP). Barn Elms Res., four on May 10th (CAWR). Island Barn Res., four on Apr. 5th (JFC). Ockham Common, 11 flying N.E. on Apr. 11th (GHG).

Geese (species not identified).

- H Broxbourne G.P., 17 landed for short while before continuing N.W. on Nov. 14th (per BSN). Broxbourne, 7 flew N.W. at 14.00 hrs on Nov. 25th (per BSN).
 M Inner London: four, definitely not Canada and probably Grey, flying S. over Regent's Park and Marylebone High Street, W.I., at 11.00 hrs on Nov. 1st (DIMW).
 S Fetcham Mill Pond, c.20 presumed to be Canada flying east on July 19th (MJC).

84 Mute Swan

One ringed as full-grown at Kew, Surrey, on Dec. 28th, 1957, was recovered at Ludham, Norfolk, on Sept. 9th, 1959.

85/86 Whooper/Bewick's Swan

- E* King George V Res., 22 on Jan. 22nd flew off to N.E. (RB, CLD).
 M Staines Res., 23 flew over from S.E. on Jan. 10th (JBC, SK, CMV). Records of a similar number over R. Thames at Windsor (BAT) later on same day indicate that the birds continued westwards. Osterley Park, 10 flying E. on Jan. 31st (DMP, JRP). Inner London: one, probably Bewick's, flying S. over lake at 09.00 hrs on Nov. 4th (DIMW), only the second wild swan to be recorded in the central parks.

91 Buzzard

- M Mill Hill, one flying S.W. on July 13th (EHW).
 S Esher Common, one flying S. on Aug. 8th (SG, SK, BAM).

Buzzard (species not identified)

- E* Harlow, one circling on Apr. 2nd (EJS).

93 Sparrow Hawk

The attention of all observers is drawn to the paucity of records of this species in 1959. Only four pairs were located during the breeding season; all other occurrences, except at one locality, were of single birds. Since there is evidence of a widespread reduction in the number of British Sparrowhawks, it is hoped that members will take careful note of this species in 1960 and 1961.

98 Honey Buzzard

S Esher Common, one on Aug. 22nd, first seen at c.500 feet to the north, flew down to tree-top height passing directly over the heads of JFC, MJC and GL before climbing away to the south. Satisfactory details have been received from MJC who was previously familiar with the species, and the following points are extracted from these: While obviously a buzzard, the bird recalled Marsh Harrier in silhouette. The wings were longer and narrower than in the Common Buzzard and were reminiscent of Kite, the primaries being neither deeply notched nor upturned even when fully extended. General colour appeared dark, but the plumage was patchy and some golden-brown showed on upper wing. The small head projected noticeably. This occurrence constitutes only the second satisfactory record for the London Area since 1900.

100/102 Hen/Montagu's Harrier

M Queen Mary Res., a "ringtail" on Oct. 15th (JFC).

103 Osprey

H Moor Mill, one being mobbed by Lesser Black-backed Gulls on Jan. 8th (EHW): the first winter record for the London Area.

104 Hobby

M Brent Res., single birds on Aug. 4th and Sept. 20th (LAB, MDK). King George VI Res., one on Aug. 16th (HDM). Queen Mary Res., one on Aug. 29th and 30th (BAM, NHP, CMV). Hampton Res., one on Aug. 30th (JFC). Perry Oaks S.F., single birds on Aug. 16th and Sept. 5th (RJJ, CAW).

S Molesey S.F., one on Aug. 11th (JFC). Weybridge Golf Course, one harrying Starlings on May 23rd (GHG). Sandown Park Race Course, one on June 1st (GHG).

Elsewhere in the London Area, a pair was present in typical habitat from Apr. 26th; they bred successfully, rearing two young which flew between Aug. 13th and 16th; the family remained together near the nest site until the end of August, but on Sept. 2nd, only one juvenile was present and none were seen thereafter. The adults' prey consisted of many insects and a large number of birds, including Goldfinch, Greenfinch, Great Spotted Woodpecker, Budgerigar, House Martin and probably Crossbill.

Hobbies have not bred in the London Area since 1948; the locality of the nest site and the names of the observers concerned are being withheld for obvious reasons.

105 Peregrine

- H Rye Meads S.F., one flushed from a freshly killed snipe on Mar. 26th (TWG, BSN).
 M Willesden, one flying S. at rooftop level, ahead of a cold front, on Jan. 7th (DIMW).

107 Merlin

- E Nazeing Meads, a falcon on Jan. 23rd (BSN).
 M Queen Mary Res., one on Mar. 15th (JBC, AQ). Perry Oaks S.F., a tiercel on Aug. 21st (AJC).

110 Kestrel

- M Inner London: South Kensington, a pair nested at the Commonwealth (formerly Imperial) Institute for the fifth consecutive year, hatching four young and rearing three successfully (JLFP, REP, RES, WGT). Paddington Cemetery, one pair bred (PLB). Regent's Park, a falcon with a "noisy youngster" on July 30th (EHW), at least ten different birds seen between Sept. 14th and Nov. 3rd, some undoubtedly migrants (DIMW).

115 Red-legged Partridge

Breeding pairs reported from:

- E Waltham Abbey, Fishers Green, Nazeing, Chigwell and Fairlop, outnumbering Partridge at all times of year at latter two localities (CLD, BSMs).
 H Cheshunt and Broxbourne (BSMs).
 M Enfield Chase, Trent Park, Stanwellmoor, West Bedfont, Perry Oaks S.F. and Osterley Park (DGH, BSMs, RFP).
 K Farningham and Hayes (AWB, HFG) and up to 19 during autumn at Swanscombe (WIB, RJF).
 S Wey Manor Farm near Addlestone, Island Barn Res. and Beddington S.F. (BEC, JFC, GHG, BRS).

120 Water Rail

Recorded from 22 localities up to Apr. 2nd and from Sept. 19th, with maxima of eight at Beddington S.F. and 12 at Leatherhead Watercress Beds, Surrey, in December (BRS, MJC *et al.*).

Summer records are given below.

- E* Chigwell, a pair on May 15th (CLD).
 H Rye Meads S.F., a pair throughout June and July (BSMs, BSN, JW). Broxbourne S.F., at least one during breeding season (TWG).
 M Poyle G.P., one on July 8th (DGH).

121 Spotted Crake

- M Brent Res., an adult on Aug. 23rd (PLB).
 S Leatherhead Watercress Beds, one probably adult on Oct. 3rd; some remains including a wing found on Nov. 7th were sent to the

British Museum for examination and their identity was confirmed (MJC).

Full details have been received of both these records, only the second and third since 1916.

127 Coot

H Hilfield Park Res., the increase in numbers outside breeding season maintained with maxima 730 on Jan. 18th and 1,200 on Nov. 8th (BLS).

M Inner London: St. James's Park, an adult repeatedly feeding feral pigeons as well as its own young on July 2nd (sc).

131 Oyster Catcher

E* Girling Res., one on July 23rd (BSMs). Walthamstow Res., one on Oct. 17th (JF).

H Frogmore, one on Aug. 23rd (EHW).

M Brent Res., one on June 27th (PLB). King George VI Res., single birds on May 9th, Oct. 12th and 17th (AJC, DGH, EHW). Queen Mary Res., one on Mar. 15th (five observers). Staines Res., one on May 9th, two on May 31st (five observers). Perry Oaks S.F., one on Sept. 13th (LAB, MDK, BEN, MRN).

K Dartford Creek, one flew in from E. on Aug. 29th (JFB). Swanscombe, one flying W. on Apr. 3rd (JMC).

S Bookham, one flying S.W. on Aug. 25th (DAI).

133 Lapwing

Summaries of extensive hard weather movements in January and of mid-summer movements in June and July are given below.

Birds were first seen on the move on Jan. 4th, 55 going S.W. over Brent Res., Middx., and a smaller number going S. over Central London; no records of movement on the 5th and 6th, but after the passage south of a cold front on the 7th small movements were seen on that day: on the 8th, with persistent hard weather, *c.*100 passed S.W. in an hour over Brent Res. and on the 9th and 10th a large movement to W. and S.W. occurred, with maxima on the 10th *c.*1,000 from 11.00 to 15.50 hrs. at King George V., Res. Essex., *c.*500 from 14.00 to 15.45 hrs at Staines Res., Middx., *c.*200 during the day at Walton Res., Surrey, and smaller numbers over Fulham, Brent Res. and Regent's Park, Middx. Also on the 10th a peak number of *c.*1,500 were present at Beddington S.F., Surrey. The passage continued on the 11th, the direction of the majority now being to S., with a "large" number over Walton, *c.*250 at Queen Mary Res., Middx., and further records at Brent Res. and over the Epping area; 300 left Beddington S.F. on this day; birds flying S. were seen over Inner London on the 12th, but the first wave had passed and there were no further reports until the 15th; numbers at Beddington S.F. rose from *c.*1,200 to *c.*2,000 on the 17th, indicating a further

large-scale arrival; 1,700 of these had passed on by the 18th and birds continued to move S. or S.W. over the area from the 19th to the 26th.

The midsummer movements, almost entirely to N.W. and W., commenced on June 11th and continued until lost in the normal passage of birds to S.W. which began in the third week of July. Parties of birds were seen almost daily at 14 localities in all parts of the London area, and were particularly noted in the Lea Valley at Thornwood Common and Harold Wood, Essex, at Harrow Hill, Middx., and over Regent's Park, Inner London. The movement was generally diffuse, but there were obvious peaks on June 14th and 18th, when *c.*45 an hour were leaving the Society's area near Ware, and on July 5th, when birds reappeared over Inner London, and on the 6th, *c.*200 passed over Thornwood Common.

134 Ringed Plover

Spring passage recorded from nine localities from mid-March to early June, with peak movement from May 22nd to June 7th; largest number recorded, 53 at Perry Oaks S.F., Middx., on June 2nd (23 still present there on June 7th); elsewhere only single birds were reported, except at Brent Res., Middx., where up to four occurred between May 22nd and June 3rd (many observers).

Autumn passage recorded from eighteen localities from late June to late October, with main arrivals on Aug. 3rd, from the 9th to 13th, from the 22nd to 25th, Sept. 4th and from the 10th to 16th; largest numbers recorded include 31 at Perry Oaks S.F., Middx., on Aug. 23rd, 14 at Rainham Marsh, Essex, on Sept. 14th, 67 at West Thurrock Marsh, Essex, on Sept. 17th and at Swanscombe Marsh, Kent, 150 on Aug. 9th, 110 on the 25th and 107 on Sept. 16th. Details of the third breeding record since 1901, winter and Inner London occurrences are given below.

- M Brent Res., one on Dec. 5th (LAB). Inner London, Regent's Park, one on Sept. 28th (EHW).
- K Swanscombe Marsh, three breeding pairs closely observed between May 15th and Aug. 1st, two successfully hatching clutches of four and one a replacement clutch of three (the number reared is not known); four adults were displaying and scrape-making in breeding area on Oct. 11th; up to 100 in total area in November (WIB, JMC, RJF, FJH).
- S Beddington S.F., one on Jan. 4th and 11th (BRS).

135 Little Ringed Plover

About 27 pairs summered in the Area, compared with 32 pairs in 1958; it seems probable however that the decrease was more apparent than real, due to lack of continuous observation and the difficulty of locating changes in breeding sites.

- E* As in 1958, nine pairs were located at four sites, but only 11 young are known to have reached the flying stage (JF, GCG, JCE, BSMs, ACP).

- H At least five pairs summered, at three sites, and four pairs are known to have bred. Quite exceptional numbers were seen at Rye Meads S.F. throughout July; maxima were 12 on July 1st, 14 on the 8th, 10 on the 22nd, 23 on the 25th, 35 on the 26th and more than 40 on the 29th—only one was seen on Aug. 2nd (EHW, BSMs, BLS, TWG BSN).
- M At least four pairs nested successfully, at two sites—one clutch is known to have been taken by a collector. At three other sites one or two were seen in the breeding season, but there was no proof of nesting (BEG, MJC, SG, BSMs, BPP). As usual, many were seen on passage at Perry Oaks S.F., with a peak on July 19th when no less than 26—of which 23 were juveniles—were counted on one stretch of mud (RJJ *et al.*).
- K At one site one or two were seen throughout the summer but there was no proof of nesting; at the same site, six were seen on Aug. 3rd and 22nd and 11 on Aug. 25th (WLB, FJH *et al.*). At another site a pair was present in May, a nest with eggs being found on the 23rd but it is not known if any young flew (JMC, RPC).
- S Four pairs present and probably bred at one site (JFC, BE, DP *et al.*).

136 Kentish Plover

- E* Walthamstow Res., a female on Apr. 19th (JF, RFP). Full details, including a sketch, have been received of this record, the fourth for the London Area this century.

139 Grey Plover

- H Napsbury G.P., one on July 13th (EHW).
- M Perry Oaks S.F., two on May 17th and 21st (JFC, DGH). Stanwell-moor G.P., two on May 18th and one on May 21st (JBC, JFC, SG).

140 Golden Plover

Reported frequently from winter quarters up to Mar. 28th and from Nov. 10th, spring passage continuing until May 21st and autumn passage commencing on July 13th. Details of large winter flocks and a record of hard-weather movement are given below.

- E* Fairlop, *c.*350 on Mar. 28th (CLD, ACP), *c.*400 on Nov. 21st (RB). Hainault, *c.*280 on Jan. 22nd (KB). King George V Res., *c.*125 flying S.W. on Jan. 10th (BSMs).
- H Shenleybury, *c.*150 from January to March (EHW).
- M Trent Park, *c.*300 on Jan. 9th (BSMs). London Airport and Perry Oaks S.F., *c.*375 on Dec. 27th (JHB).
- S Beddington S.F.. maximum 65 on Jan. 11th (BRS)

143 Turnstone

- E* Girling Res., one on July 27th, six on 28th and one on 29th (RB, JCE, FR).

- M King George VI Res., single birds on May 23rd and 31st (five observers). River Lea near Lockwood, one flying downstream on Aug. 14th (CLD). Queen Mary Res., single birds on Feb. 16th (MDK) and July 26th (BEC, SG, RCH, AQ). Staines Res., single birds on Aug. 2nd and 15th (JGL, NHP). Perry Oaks S.F., four on May 25th (JBC) and one from Aug. 11th to 14th (AJC, DGH, MRN).
- K Swanscombe Marshes, one on May 9th (FJH), up to five from Aug. 1st to 19th (WIB, JMC, RJF, CDJ, FJH).
- S Beddington S.F., one on Jan. 14th (RES).

145 Snipe

Breeding and Inner London records are given in full.

- E*Nazeing G.P., one pair bred (BSMs). Sewardstone G.P., two pairs bred (BSMs).
- H Rye Meads S.F., at least four pairs bred and up to 12 presumed pairs present during breeding season (BSN).
- M Inner London: Regent's Park, single birds on Sept. 17th, 29th and Oct. 5th (EHW, DIMW).
- S Beddington S.F., two pairs bred (BRs).

An increase in the number wintering at Elmers End S.F., Kent, was noted, maximum *c.*500 from Feb. 14th to 22nd (MM, HPM, PM, AS); elsewhere no exceptional counts. Of two ringed at Epsom S.F., Surrey, in the winter of 1957/58, one was recovered near Smolensk, Russia, during the breeding season and the other during the autumn in Sjealland, Denmark, both in 1959.

146 Great Snipe

- M/E Ponders End S.F. and Girling Res., one from Sept. 12th to 17th (DK, BSMs, FR)
- H Rye Meads S.F., one on Dec. 26th (BSMs, FR).

Out of several reports of this species submitted for 1959, only these two are supported by sufficient detail to be accepted by the Records Committee. Both BSMs and FR have supplied very full descriptions of the birds' behaviour and field characters, in which the following diagnostic features were noted during direct comparison with Common Snipe:

Both birds appeared much plumper and shorter-legged on the ground, while the flight action was slower and heavier, lacking the frequent changes in direction of the commoner species. Head-markings were of a similar pattern, but the bills appeared broader and slightly shorter. Remainder of plumage was darker, with bold black markings on the back (less marked in the December bird) and the underparts were completely barred from breast to undertail coverts. Broad arcs of white in outer tail feathers were noted in flight and on the ground (whilst preening). Both birds were silent. There was also a significant difference in habitat, the Great Snipes being much attached to grassy paths and dried-out sludge beds, either open or overgrown. The occurrences noted above constitute the first and second records of this species in the London Area during this century.

147. Jack Snipe

Many records of up to 10 birds from 22 localities until Apr. 12th and from Sept. 19th. Larger numbers were recorded only from Elmers End S.F., Kent, with maximum *c.*30 on Feb. 21st and 22nd (HPM, PM, AS).

148 Woodcock

Records for the breeding season and for Inner London are given in full.

- E* Brentwood, one on June 4th and 7th (JFn). Horndon Park/Warley/Childerditch, single birds roding on June 2nd (MSF, RBW) and on July 1st (RRV).
- H Broxbourne Woods, one to three in May (BSN) and one roding on June 17th (EHW).
- M Inner London: Regent's Park, one on Sept. 29th (DIMW).
- S Burgh Heath, one roding on Apr. 15th (JAF). Dulwich Woods, one on July 26th (PJO). Esher Common, up to two roding in May and June (BEC, JFC, MJC). Juniper Top, two roding on May 5th (GMC). Mickleham Downs, one roding on May 11th (GMC). Oxshott, up to three roding from March to May and one on July 30th (five observers).

Winter records of up to three birds at seven localities in Surrey and Kent.

150 Curlew

The number of localities at which this species was seen in each month is given below.

Jan.	Feb.	Mar.	Apr.	May	June
1	1	4	3	—	2
July	Aug.	Sept.	Oct.	Nov.	Dec.
9	12	5	2	2	1

The largest numbers recorded were 12 at King George VI Res., Middx., on Aug. 9th (BEC), a "large number" passing E. or S.E. over Barnehurst for several minutes *c.*23.15 hrs. on Mar. 25th (WIB) and up to eight at Swanscombe Marshes in "the latter half of the year" (RJF).

- M Inner London: Hyde Park and Kensington Gardens, 12 in flight on Apr. 28th (AMW).

151 Whimbrel

- E* Banbury Res., one flying S. on Aug. 14th (RB). Girling Res., one on Aug. 19th (BSMs).
- H Broxbourne Meads G.P., seven flew off to S. on July 26th (TWG). Frogmore, single birds on Aug. 25th and Sept. 5th (EHW). Napsbury, one on Sept. 16th (EHW).
- M King George VI Res., one on Aug. 9th (BEC). Ponders End S.F., one on Aug. 19th (BSMs). Osterley Park, one flying N. on May 14th (DMP).

- K Elmers End S.F., seven arrived at 09.00 hrs., flying off to W. at 09.10 hrs. on May 2nd (MM, HPM, AS). Swanscombe Marshes, one seen on Aug. 3rd (RJF) and others heard calling on Aug. 6th, 8th and 9th (WIB).
- S Esher, one flying W. on July 27th (GB). South Norwood, two heard at c.24.00 hrs on July 7th (DAW).

154 Black-tailed Godwit

- E* Girling Res., three on July 24th (JCE). Rainham Marsh, two on Aug. 2nd and 14th (JHB).
- M Brent Res., one on July 22nd (LAB). Perry Oaks S.F., one on Apr. 26th (JFC, CAW, DIMW), three from July 19th to 29th, four on July 30th, two on Aug. 1st and 2nd (many observers).
- K Swanscombe Marshes, one on July 26th and Aug. 1st, two on Aug. 3rd and 8th (JMC, RJF, FJH, CDJ).
- S Beddington S.F., one from July 5th to 7th (BRS).

155 Bar-tailed Godwit

- H Frogmore, one on Aug. 23rd (EHW).
- M Charlton G.P., one on Apr. 22nd (DIMW). Perry Oaks S.F., one on May 21st (JFC, DGH). Queen Mary Res., one flying S.W. on Sept. 6th (BAM).

156 Green Sandpiper

The number of localities at which this species occurred in each month is given below:

Jan.	Feb.	Mar.	Apr.	May	June
4	3	7	4	5	7
July	Aug.	Sept.	Oct.	Nov.	Dec.
20	15	7	4	6	5

This pattern of occurrence is quite different from that of 1958 when passage was at a peak from mid-August to early September and more in keeping with that normally experienced in East Anglia, from which area most of the birds which pass through the London Area presumably come. The largest numbers recorded were 12 at Rainham Marsh, Essex, on Aug. 26th (JHB) and 14 at Hoddesdon S.F., Herts., on July 28th (BSMs).

157 Wood Sandpiper

More numerous than usual on both spring and autumn passages, one late record.

- E* Girling Res., up to three from July 21st to 30th, one on Aug. 19th and two on the 20th (RB, JF, BSMs). Walthamstow Res., two on Aug. 22nd (JF). Nazeing G.P., one on Aug. 22nd (BSMs). Rainham Marsh, recorded from Aug. 2nd to Sept. 4th, with maximum three on Aug. 23rd and 26th (JHB, BSN).
- H Broxbourne G.P., one on Aug. 23rd (BSN, RFS) and two on Sept. 20th (TWG). Broxbourne S.F., single birds on many dates between July 1st and Sept. 20th (TWG), one on Oct. 3rd (JW). Hoddesdon S.F.,

- one on July 25th (BSMs). Hilfield Park Res., one on July 31st (BLS). Old Parkbury G.P., one on Aug. 12th and Sept. 7th, two on Sept. 16th (EHW). Rye Meads S.F., recorded almost daily from July 1st to Aug. 2nd, with maxima seven on July 8th and six on 12th (TWG, BSMs, BSN). Wormley S.F., one on May 21st (LLE).
- M Brent Res., two from July 12th to 23rd (LAB), one on Aug. 4th (EHW) and one or two between Aug. 7th and Sept. 4th (LAB, PLB, MDK, JBT). Stanwellmoor G.P., two from May 18th to 21st (JFC, SG). Perry Oaks S.F., two on May 21st, one on May 24th (BEC, JFC, DGH), two on July 19th, one on July 26th and 27th, up to two from Aug. 15th to 26th and two on Sept. 13th (many observers). Ponders End S.F., two on July 23rd, 24th and 26th (JCE, BSMs), one on Aug. 19th (BSMs).
- K Swanscombe Marshes, recorded on seven dates between Aug. 1st and 28th, maximum six on Aug. 3rd (WIB, RJF, FJH).
- S Beddington S.F., one (trapped) on May 23rd and 24th, one on July 1st (BRS). Esher S.F., one on July 15th (BEC, JFC). Hersham S.F., one on May 24th (SG) and two on May 27th (BEC). Molesey S.F., one on July 18th and single birds from Aug. 10th to 14th (BEC, JFC, DP).
- All seven spring records fall between May 18th and 27th.

159 Common Sandpiper

Only reported from two localities in November, but frequent records of single birds from five localities in January, February and March and again in December. Presumed pairs were present at Nazeing G.P. and Rye Meads S.F., Herts, in May and June, but no proof of breeding (BSMs).

161 Redshank

Winter records from eight localities, with one bird present at Beddington S.F., Surrey, throughout January and February and in November and December. Breeding season records are given in full.

- E* Fishers Green G.P., of three pairs present, two bred successfully (BSMs). Sewardstone G.P., two pairs (BSMs). Waltham Abbey, one pair (BSMs).
- H Broxbourne G.P., one pair (TWG). Rye Meads S.F., c.12 pairs present, of which eight bred successfully (TWG, BSMs).
- M Stanwellmoor, three pairs nested (BEC, JBC, SG).
- K Elmers End S.F., one pair (DS). Littlebrook, at least two pairs nested (FJH).
- S Beddington S.F., 10 to 12 pairs bred (BRS).

163 Spotted Redshank

Exceptionally widespread on autumn passage.

- E* Rainham Marsh, single birds on Sept. 4th and 20th (JHB, RPC).
- H Hoddesdon S.F., single birds on Aug. 25th and Sept. 12th (BSMs). Rye Meads S.F., single birds on July 8th and 25th (TWG, BSMs).

- M Brent Res., one on Aug. 15th, two on 16th and one on Sept. 12th (PLB, MDK). Staines area, single birds in summer plumage recorded from three localities from Apr. 24th to 26th (JBC, JFC, DGH, AQ). Staines Moor, one on Aug. 28th (JCSF). Perry Oaks, S.F., up to four on many dates from Aug. 29th to Sept. 27th (many observers).
- K Swanscombe Marshes, up to three on many dates from Aug. 3rd to Oct. 6th (WIB, JMC, RFJ, FJH, CDJ).

165 Greenshank

Pattern of spring passage similar to that of Wood Sandpiper, with all but one of six records falling between May 18th and 24th. These are given in full.

- H West Hyde, one on Mar. 26th (EHW).
- M Queen Mary Res., two on May 24th (AQ). Stanwellmoor G.P., two on May 23rd and 24th (BEC, SG, AQ). Perry Oaks S.F., one from May 21st to 24th (DGH, CAW).
- S Molesey S.F., one on May 23rd (BEC). Walton Res. (new site), three on May 18th (DP).
- Autumn passage from June 28th to Oct. 24th, with largest numbers again at Girling Res., Essex, maximum *c.* 12 on Sept. 8th.

169 Knot

- E* Girling Res., single birds on Aug. 27th and 30th., Sept. 1st (RB, JCE, RFP).
- M Queen Mary Res., single birds on Sept. 20th, 27th and Oct. 4th (REE, JBC, BAM). Ponders End S.F., one on Sept. 1st (RB) and Nov. 1st (JCE). Perry Oaks S.F., one on Oct. 4th (GB).
- K Swanscombe Marshes, two on Aug. 22nd and 25th (RJF, FJH, HLR), one on Sept. 6th (WIB) and two on the 8th (JMC).
- S Beddington S.F., one from Jan. 14th to 25th (BRS).

170 Purple Sandpiper

- M Queen Mary Res., one present all day on Nov. 1st (many observers). Full details have been received of this record, the fifth of this species since 1900.

171 Little Stint

- E* Girling Res., one on Sept. 1st and 2nd (BSMs). West Thurrock Marsh, three on Sept. 17th and 22nd (RH).
- H Old Parkbury G.P., one from Sept. 5th to 7th (EHW).
- M Perry Oaks S.F., up to four on many dates from July 30th to Sept. 20th (many observers), a late bird on Nov. 28th (AQ).
- K Swanscombe Marshes, pronounced passage from Sept. 5th to Oct. 12th, maximum ten on Sept. 23rd (SB, WIB, RJF, FJH).

173 Temminck's Stint

- E* Rainham Marsh, one on Aug. 26th and 30th (JHB, PJS). Full details have been received.

178 Dunlin

Winter records away from the Thames estuary are given in full.

- E* King George V Res., 12 on Feb. 28th (BSMs).
- H Rye Meads S.F., two on Dec. 13th (BSN).
- M Brent Res., one on Jan. 17th (EHW). Queen Mary Res., single birds on Nov. 15th and 22nd (BEC, MJC). King George VI Res., one on Nov. 22nd (BEC). Perry Oaks S.F., one or two from Nov. 28th to Dec. 28th (LAB, AJC, BEC, AQ), two on Feb. 15th (GCG).
- K Elmers End S.F., ten on Feb. 15th (PM).
- S Barn Elms Res., single birds on Feb. 23rd (AJC) and Dec. 8th (NHP). Molesey S.F., one on Dec. 12th (DP). Beddington S.F., one on eight dates in January, three on Jan. 15th (BRS).

Migrant birds or parties recorded at 18 inland localities throughout the London Area; spring passage from Mar. 8th to June 3rd, with widespread occurrences or large numbers noted from Mar. 8th to 15th, on Apr. 12th, from Apr. 26th to May 6th (maximum, 30 at Perry Oaks S.F., Middx., on May 2nd); autumn passage from July 11th to Nov. 1st, with main movements noted on July 11th and 12th, from July 17th to Aug. 3rd, on Aug. 16th and from Aug. 29th to Sept. 8th (maxima, *c.*20 at Girling Res., Essex, in late July, at Rye Meads, S.F., Herts., on July 12th, at Perry Oaks, S.F., Middx., on Aug. 16th and Sept. 4th and 13 at Queen Mary Res., Middx., on Nov. 1st).

Large numbers (minimum 50) recorded from three coastal areas in N.W. Kent throughout winter months; a count of *c.*500 at Swanscombe Marshes on Nov. 29th probably represents total winter population for these localities. No winter records were received from Essex, but birds were seen at W. Thurrock and Rainham Marshes in the autumn. A full series of counts at Swanscombe Marsh, Kent, reflects pattern of inland migration, with spring maximum *c.*250 on May 2nd and autumn maximum *c.*100 on Aug. 16th.

179 Curlew Sandpiper

In common with the rest of Eastern and Southern England, the London Area enjoyed a considerable autumn passage of this species.

- E* Rainham Marsh, two on Sept. 13th (RPC). West Thurrock Marsh, 18 on Sept. 17th and eight on the 22nd (RH). Girling Res., up to five from Sept. 1st to 17th (BSMs).
- H Broxbourne S.F., one from Sept. 3rd to 8th, six on Sept. 18th (TWG, BSN).
- M Brent Res., two on July 27th (LAB), six on Aug. 31st (LAB, PLB). Ponders End S.F., up to three from Sept. 1st to 6th (JCE, BSMs). Perry Oaks S.F., one on July 23rd and 24th (DGH), one on Aug. 5th (EAB), up to 12 from Sept. 1st to 6th, three from Sept. 10th to 12th and one on Sept. 23rd (many observers).
- K Swanscombe Marshes, one on July 26th (RJF), up to 13 from Aug. 20th to 26th; in September, eight on the 5th, 40 on the 6th, up to 15 until

the 14th, when 38 were seen, *c.*40 on the 16th, 16 on the 22nd, one or two thereafter until Oct. 9th (SB, WIB, JMC, RJF, FJH, CDJ, HLR).

S Barn Elms Res., one on Aug. 2nd (PJS).

The absence of inland records (from well-watched localities) between Aug. 5th and 31st is of interest, in view of the pronounced passage in the Thames Estuary and elsewhere at this time and the fact that the September influxes can be closely correlated throughout the area.

181 Sanderling

A pronounced spring passage and rather more autumn records than usual.

E* Girling Res., up to nine from Aug. 2nd to 8th (RB, CLD, JF, RFP), one on Aug. 17th and four on the 19th (CLD), one on Sept. 13th (RB).

H Rye Meads S.F., two on May 14th (NR).

M Brent Res., single birds on Sept. 6th and from the 14th to 17th (LAB, PLB). King George VI Res., single birds on May 18th and Aug. 29th (JBC, JFC, SG). Stanwellmoor G.P., one on May 31st (BEC). Perry Oaks S.F., one on Apr. 18th (DGH), up to three from May 21st to 23rd, one on the 31st (BEC, JFC, SG, DGH, AQ).

K Greenwich, two on May 16th (BAW). Swanscombe Marshes, one on May 15th (JMC).

S Barn Elms Res., one on May 30th (CDJ, CAW_r). Walton G.P., one on May 25th (BEC, JFC).

184 Ruff

Now firmly established as a winter visitor, largest numbers as usual in the Staines area, Middx., where a flock of up to 27 birds was seen from January to March and last noted on Apr. 5th; up to 26 were together in the same area from Oct. 17th to the end of the year. The birds were generally to be found at Perry Oaks S.F., but were also seen at Queen Mary Res. on Jan. 11th (SG) and at King George VI Res. on Oct. 24th (NHP). Winter occurrences were also reported from Brent Res., Middx., one on Feb. 14th (LAB, MDK), Littlebrook, Kent, up to four in January and one on Feb. 21st (FJH) and Beddington S.F., Surrey, one on Jan. 11th and two on Nov. 8th (BRS).

No records in April and May away from Staines area, Middx., but three occurrences in June—*six at Rainham Marsh, Essex, on 14th, two at Stanwellmoor G.P., Middx., on June 11th and two at Perry Oaks S.F., Middx., on June 29th—deserve special attention since this species has been rarely recorded in that month before, and because several of the birds involved were adult Ruffs in full plumage. Autumn passage noted at 14 localities from July 5th until Oct. 3rd, with most widespread occurrences in late August and September, and largest numbers, 29 at Perry Oaks S.F., Middx., on Aug. 22nd (MRN), *ten at Rainham Marsh, Essex, on Aug. 23rd (JHB, BSN), and nine at Swanscombe Marshes, Kent, on Sept. 11th (RJF).

187 Grey Phalarope

H Rye Meads S.F., one from Oct. 27th to Nov. 1st (BSMs, NR).

- M King George VI Res., one on Oct. 18th (REE, CAW). Queen Mary Res., one from Oct. 14th to 18th (six observers).
 K Swanscombe Marshes, one on Oct. 17th (CDJ, RVW).
 S Barn Elms Res., one from Oct. 19th to 26th (many observers).

188 Red-necked Phalarope

- H Rye Meads S.F., one from Oct. 18th to 25th (TWG, BSMs, BSN, NR, JJW). Descriptions submitted of this bird and of the Grey Phalarope seen at the same locality two days later rule out any possibility of confusion.

189 Stone Curlew

- M Ponders End S.F., one flying north on May 24th crossed into Essex (JF).
 K Elmers End S.F., one on Apr. 4th (MM, HPM).
 S Oxshott, one heard calling after dark on July 22nd (BEC, MJC).

198 Great Black-backed Gull

Records of this species were submitted by *only five* observers and no summary of its status in London in 1959 is possible. Members are asked to send in all records of this species for 1960.

199 Lesser Black-backed Gull

At least 1,500 present in the London area during the cold spell from Jan. 12th to 17th, the largest flock being *c.*1200, at Beddington S.F., Surrey, on Jan. 16th (BRS). Numbers fell sharply in February, the biggest concentration being *c.*120 at Mitcham Common rubbish tip, Surrey, throughout the month (RCR). December records from Beddington S.F. and Ripple Level, Barking, Essex, suggest a build-up from the second week, but no flock totalling more than 47 birds was seen at either locality and there were few records from elsewhere. The autumn passage was again heavy, with flocks of *c.*4,000 to *c.*7,500 recorded at Girling Res., Essex, from Aug. 20th to Oct. 14th (BSMs) and *c.*2,000 at Hilfield Park Res., Herts., on Oct. 25th (LAB). The largest party in Spring was *c.*150 including 40 *fuscus*, at Charlton G.P., Middx., on Apr. 22nd (DIMW).

200 Herring Gull

Records of this species were submitted by *only nine* observers and no summary of its status in London in 1959 is possible. Members are asked to continue submitting all records of large numbers (over 100) and especially any series of counts from regularly watched localities. One recovered at Staines Res., Middx., in February 1959 had been ringed in the nest on Bass Rock, East Lothian, on Aug. 6th, 1954.

202 Glaucous Gull

- M King George VI Res., an immature first seen on Nov. 14th continued to roost there throughout November and December (PRC, AQ). Queen Mary Res., an immature on Jan. 11th (BEC, SG).

203 Iceland Gull

- K Ruxley G.P., a sub-adult on four dates from Jan. 31st to Mar. 8th (JC, BE, FJH).

202/203 Glaucous/Iceland Gull

- H Broxbourne, one at rubbish tip near Lodge Hollow from Dec. 5th to 31st (BSN).
S Beddington S.F., one on Feb. 7th (CJM, PJM).

207 Little Gull

- E* Girling Res., an adult and an immature on Sept. 29th (BSMs), an immature from Nov. 28th to Dec. 5th (JCE, JF, RFP) and on Dec. 8th (RB, CLD). King George V Res., an immature on Sept. 27th (RB, JF) and 29th (BSMs).
M King George VI and Staines Res., two immatures on Nov. 14th and 15th and one immature from Nov. 22nd to Dec. 9th, an adult from Nov. 22nd to Dec. 13th (many observers). Queen Mary Res., single immatures on July 24th and August 23rd and up to three from Sept. 5th to 26th (BEC, JFC, MJC, SG, BAM, AQ).
S Walton Res., an immature on Aug. 29th (BEC.)

208 Black-headed Gull

A decrease in the size of the Perry Oaks S.F. colony was noted, there being *c.* 150 nests on May 24th and *c.* 125 chicks on June 28th (BEC). Compare *L.B.R.* 1958, p. 30, and 1955, p. 24.

211 Kittiwake

In contrast to most years, more birds were seen alive than found dead, and an unprecedented westerly movement occurred on Feb. 22nd, when a total of 187 were seen at four widely scattered localities.

- E *Girling Res., an immature on Feb. 24th (BSMs). *King George V Res., 20 adults and 32 immatures drifting S.W. on Feb. 22nd (DK, FR), an adult on Feb. 28th (BSMs). Walthamstow Res., dead birds found on Jan. 10th and *Feb. 28th (JF, ARM). *Nazeing G.P., two immatures flying west on Feb. 22nd (BSMs).
H Broxbourne G.P., an adult on Jan. 10th (BSN).
M Brent Res., an adult on Jan. 19th (MDK) and an immature on Aug. 29th (PLB). Queen Mary Res., an adult on Dec. 27th (JC, MRN). King George VI Res., 17 adults flying S.W. on Feb. 22nd (AQ).
Inner London: Westminster, an immature flying upstream on Feb. 3rd (ACP).
S Barn Elms Res., an adult moving W.N.W. on Jan. 3rd (SK). Walton Res., an adult found dead on Nov. 24th (JFC). Leatherhead Watercress Beds, parties of *c.* 50, six and *c.* 60 flying W. between 12.00 and 12.30 hours on Feb. 22nd (MJC, JCS).

212 Black Tern

On spring passage, following an early record at Walthamstow Res., Essex, on Apr. 24th, the first main arrivals were 23 at Staines Res.

and seven at Queen Mary Res., Middx., on May 9th; on the 10th ten were seen at Walton Res., Surrey, and one at Old Parkbury G.P., Herts.; the probability of a passage from W. to E. was confirmed on the 11th, when 12 were watched drifting E. over Staines Res. and by the 13th, c.30 had reached Ham River Pits, S. Ockendon, Essex. There were no further reports until May 18th, when three were seen at both Staines and Queen Mary Reservoirs; on the 19th six were found at Island Barn Res., Surrey, and odd birds were reported from three localities in Essex during the next three days, the pattern of occurrence again pointing to a W. to E. movement. On May 23rd records came from six localities, including Rye Meads S.F., Herts., where a flock of c.100 flew N. from King George V Res., Essex, Staines Res. in the W. and Island Barn Res. in the S.W. Several independent counts were made at Staines and Island Barn Res. on the 23rd; none agreed and passage across the area was probably continuous throughout the day, with at least 151 birds being involved. On May 24th, the total number of birds seen dropped to a minimum of 111, but they were still moving to between N. and E. and a count of 39 at Staines Res., compared with a maximum of 20 on the previous day, indicated a further arrival there. Apart from three at Barn Elms Res., Surrey, on May 26th, there were no more records S. or W. of Brent Res., Middx., during May, but c.12 were recorded daily at Walthamstow Res., Essex, from May 24th to 27th. In June one was seen at Perry Oaks S.F. on the 2nd, and parties of three and seven were reported at Staines Res. on the 3rd and 14th respectively.

In general the spring passage was the second heaviest ever observed and should be compared to the record movement in May, 1950. An analysis of the movements of this species throughout England in May 1959 appeared in *Bird Migration*, Vol. 2, p. 86 and 87. The London area records are, however, especially interesting since it is clear from the chronological sequence and geographical pattern of the occurrences (and the flight directions noted) that the majority of the birds concerned had corrected their mistaken departure from the Continent and were already moving back towards the North Sea and Europe.

Extremely scarce on autumn passage, with no more than five birds together being reported from 12 localities throughout the area from July 12th to Sept. 27th; one late bird at Staines Res., Middx., from Oct. 18th to 25th.

217/218 Common/Arctic Tern

Spring passage of small numbers from Apr. 19th to June 14th, with largest flock 20 at Queen Mary Res., Middx., on May 10th. Autumn passage from June 28th to Sept. 20th, with few records before mid-August; 36 were seen flying W. at Swanscombe Marshes, Kent, on Aug. 15th, and records in the western half of the area tended to increase until Aug. 29th, when three parties of up to ten birds were

recorded in the Staines area of Middx.; a further small movement was noted on Sept. 5th and 6th. Late birds at King George VI Res., Middx., from Oct. 11th to 19th and at Swanscombe on Oct. 12th.

- M Inner London: Kensington Gardens, an immature at the Serpentine on Sept. 3rd (ABMM)

222 Little Tern

- E* Girling Res., one on May 3rd (BSMs).
M Queen Mary Res., one on Aug. 23rd (BEC, MJC, SG).

223 Sandwich Tern

- E* Walthamstow Res., one on Sept. 12th (RFP). Rainham Marsh, four on Sept. 6th (RPC).
H Hilfield Park Res., one on May 12th (EHW).
M Queen Mary Res., single birds on July 26th, Aug. 23rd and 28th, eight on Sept. 13th (BEC, MJC, SG, AQ). Staines Res., one on Oct. 17th (JFC, AQ).
K Dartford Marshes, one flying downstream on Aug. 29th (JFB). Stone Marshes, three flying upstream at low tide on Aug. 29th (JFB, WIB):

226 Little Auk

- M Staines Res., one first seen on water flew off to S.W. on Nov. 1st (JC, MRN).

230 Puffin

- E* Plaistow, an immature found apparently uninjured on Jan. 14th, had been ringed on Fair Isle in July, 1958 (per RH).
M Inner London: Battersea, an adult found on Albert Bridge on Oct. 20th was taken to a temporary home in Battersea Park Children's Zoo until the 22nd, when it was taken to Hastings, Sussex, for release (WGT).
K Sevenoaks Way, near St. Pauls Cray, an immature collided with a cyclist, but was unhurt, on Oct. 20th (per WGT).

232 Stock Dove

Regularly recorded from only two localities in Inner London, Holland and Regent's Parks. Breeding was suspected but not proved in the former; three pairs each reared one young in the latter and a fourth pair was probably present (EPB, DIMW, EHW). The only other record for Inner London was one in Kensington Gardens on Feb. 12th (DIMW).

234 Wood Pigeon

Nests were built on at least six buildings in Inner London; two of the pairs involved successfully hatched young, at Bucklersbury (RBW) and on top of 95A, Marylebone High St., W.1 (DIMW). Diurnal movements of this species were frequently recorded from Oct. 26th to Dec. 2nd, being most noted over central London,

Harold Wood, Essex, Leatherhead, Surrey, and the Staines area of Middx. Passage was generally from E. to between N.W. and S.W.; the size of the movement can be gauged by the fact that eleven random counts made between 07.20 and 14.55 hours on the six days from Oct. 31st to Nov. 6th totalled 3,259 birds. Assuming that the movement was on a broad front, as the records suggest, and allowing for the areas and periods of time not covered by actual observation, it is conceivable that 18,000 birds passed over London in early November. The height of the migrant flocks, as opposed to birds moving to and from roosts, etc., was variously described as "high", "very high" and "from 200 to 300 feet".

237 Cuckoo

A juvenile ringed at Beddington S.F., Surrey, on Sept. 13th, 1959, was recovered on Oct. 20th, 1959, near Les Sables d'Olonne, Vendée, France.

- M Inner London: Battersea Park, a juvenile found on Aug. 9th died soon afterwards (WGT). Cripplegate, one on Aug. 12th (RBW).

241 Barn Owl

Breeding season records only are given.

- H Eight out of eleven pairs located in the areas of Broxbourne, Brickendon, Ware and Hertford by TWG were in the Society's area; seven bred successfully.
- M Pairs bred successfully at Enfield Chase (BSMs) and Harrow (CHF); a pair was present at Osterley Park (DGH) and at Waltham Abbey (BSMs).
- K One pair bred successfully at Norwood Junction, the adults feeding at Elmers End S.F. (HPM, MM) and a pair probably nested at Hayes (AWB).
- S Pairs were reported from Ham House, Dulwich Woods, Addington and Beddington S.F., breeding successfully at the last locality (FRM, IRB, DS, BRS). Odd birds were also seen in June and July at Juniper Bottom, Esher S.F. and Caterham (GMC, BEC, JFC, DS).

In total, 17 pairs were located, of which 11 are known to have reared young. The maximum number located in any of the last five years was eight in 1957 and 1958. The suggestion of a striking growth of breeding population indicated by this comparison may be due in part to increased observation, but in one area (E. Herts.) there is clear evidence of a continued increase (TWG).

246 Little Owl

One of three owlets ringed at E. Tilbury, Essex, on June 6th, 1957, recovered at Leigh, Kent, in July 1959, had clearly found the Thames no obstacle to its progress.

247 Tawny Owl

Recorded from fourteen localities in Inner London during the year; pairs probably bred in Regent's Park and at Queen Square (sc, DIMW *et al.*).

249 Short-eared Owl

- E* Girling Res., one or two from Jan. 13th to Feb. 15th (BSMs) and one on Mar. 14th (RFS). Ripple Level, Barking, one from Jan. 1st to Feb. 9th (KB). Romford S.F., single birds on Mar. 15th and Oct. 18th (RRS).
- M Brent Res., one on Feb. 19th (LAB). Southgate, one on Jan. 17th (BSMs). Ponders End S.F., one on Mar. 14th (RFS). Perry Oaks S.F., single birds on Mar. 21st, Apr. 21st, Dec. 20th and 31st (six observers). Staines Moor, up to five frequently reported from Jan. 4th to Mar. 14th, the same birds as those present in November and December 1958 (many observers).
- K Dartford Marshes, one on Feb. 22nd (HLR); Plumstead Marshes, one on Mar. 21st (HLR); Swanscombe Marshes, one on Mar. 21st and 27th (SB, FJH). Stone Marsh, one on Dec. 28th (FJH). Crayford Creek, two fighting each other on Jan. 25th (WIB). Crayford, one flying N.E. over shopping centre on Feb. 7th (WIB).
- S Barn Elms Res., one on Feb. 15th (MDK, SK), Beddington, S.F., up to eight in January, four on Feb. 15th and at least three until Mar. 22nd, two remaining until Apr. 13th (BRS). Richmond Park, one on Jan. 10th (per VFH).

252 Nightjar

- E* Childerditch-Thorndon-Warley district, at least two and probably three pairs during breeding season (TB, MSF, RRV, RBW). Hall Wood, Brentwood, one on June 7th (JFN).
- H Broxbourne Woods, up to four heard churring in June and July (BSN, EHW). Elstree, one on Aug. 19th (JFCd, RAC).
- B Black Park, Iver, two males on Aug. 23rd (DGH).
- M Enfield Chase, at least two heard churring in Trent Park during May and June (BSMs).
- K Hosey Common, Westerham, one pair bred, rearing two young which flew on July 22nd (WT).
- S Esher Common, two pairs present during breeding season (BEC, JFC, MJC, AQ). Headley Heath, at least one pair during breeding season (RPC). Limpsfield Chart, three birds present in July, of which two were churring on the nights of the 8th/9th and the 18th/19th (ADB, DS). Oxshott, at least three males, two of which paired and bred, during breeding season; churring continued until July 22nd (BEC, JFC, MJC, SG, AQ).

255 Swift

An early bird at King George VI Res., Middx., on Apr. 19th (JFC, PRC, AQ), with main spring passage commencing on Apr. 25th and breeding birds arriving from May 5th; more obvious than usual over Inner London throughout summer, with several parties of one hundred or more reported over park lakes from June 21st to July 3rd; a bird of the year was seen flying over Staines Res., Middx., on the exceptionally early date of July 12th (MJC); departure from breeding sites

at West Ewell and Ashtead, Surrey, about a fortnight earlier than usual (MJC); definite southward movements over Inner London commenced on July 15th, reaching a peak on the 26th, but in contrast to 1958 very few were seen after Aug. 5th (NHP, DIMW, EHW); autumn records from elsewhere include "a vast southward passage" down the Lea Valley from July 15th to 17th (BSN) and continual movement of birds over Thornwood Common, Essex, throughout the day on July 25th (DIMW); last seen on Sept. 9th.

258 Kingfisher

Only eleven observers submitted records of this beautiful bird, and it is impossible even to guess at its status in the London area in 1959. The only record for Inner London is given.

M Inner London: Regent's Park, two on Oct. 4th (DIMW).

260 Roller

M Staines Res., one on the causeway on Sept. 26th (EEG).

S Oxshott, one first seen on May 23rd was last noted on the 29th (DP). Full details have been received of these important records, the first fully authenticated occurrences of the species in the London Area. An earlier record of a Roller in January, 1945, published in *B.B.*, 39, p. 119, remains unacceptable to the Records Committee for the reasons given in "The Birds of the London Area since 1900".

261 Hoopoe

S Shirley Park, Croydon, one on Mar. 18th (PMn). Beddington S.F., one from May 11th to 13th (BSM, RCR, RES).

263 Great Spotted Woodpecker

This species appears to be withdrawing from Inner London; recorded from only six localities and no evidence of breeding, although pairs were seen in Holland and Regent's Park, and but for their eviction from a likely hole by Starlings one might have nested in the former.

265 Wryneck

M Mill Hill, one on Apr. 19th (EHW).

K Green Street Green, one heard calling through "a period of several weeks" during breeding season (per PMW). Hayes, two heard calling on May 8th (AWB). Northfleet, single birds on Apr. 6th, 10th, 11th and 14th, at least two on the 12th and at least four on the 13th (MB). Pratts Bottom, one pair bred successfully in a nest box in a garden, also occupied in 1958 (PMW).

S Chipstead, one pair bred rearing three young (LIC).

271 Wood Lark

Breeding season distribution:—

E* Epping Forest, at High Beech one in song on Mar. 31st (JHB) and a pair on June 7th (BSMs). Hainault Forest, single birds on Apr. 12th and May 3rd (DCG).

- H Watford, a male singing in Cassiobury Park on May 17th (JBT).
- S Esher Common, one pair (BEC, JFC, MJC). Juniper Top and Mickleham, two pairs in May but only two birds seen in June and July (IRB, GMC). Oxshott, one on May 31st (SKR). Richmond Park, "about four pairs" during breeding season and a party of 10 on Sept. 24th (VFH *et al.*). Shirley Woods, a male in song flight on Mar. 22nd (AWB). Walton Heath, a pair on Apr. 2nd (HB). One exceptional autumn record provides clear evidence for including this species among the long list of diurnal migrants of the autumn:
- M Inner London: Regent's Park, two flying N.W. among Skylarks on Oct. 31st (DIMW), the fourth record for Inner London since 1900.

272 Skylark

Records of diurnal movements in spring were submitted by only one observer, but the massive immigrations in late October and early November were well watched. A summary of these and other smaller autumn movements follows.

Forerunners were first noted on Sept. 27th, but there was no more than a trickle of birds until Oct. 17th, when "several flocks of 50" were seen over Addlestone, Surrey. On the 19th and 20th a noticeable peak occurred in the daily movements to N.W. over Regent's Park, Inner London, when for the first time the rate of passage topped 20 birds an hour. This movement was short-lived, there being no real increase in the scale of the passage, although birds were seen daily over Central London until the 30th. On that day six observers on an arc between the Lea Valley, Essex, the City of London and the Staines area, Middx., noted "large" movements to N. and N.W.: analysis of three counts between 09.15 and 10.30 hrs. gives a passage rate of *c.*66 birds an hour (maximum, 40 flying N. at Walthamstow Res., Essex, from 10.00 to 10.30 hrs.). On the 31st the density of passage more than doubled, and broad-front movements to N.W. and W. were noted throughout the area; analysis of four counts between 07.30 and 14.05 hrs. gives a passage rate of *c.*150 birds an hour (maximum 197 in an hour over Regent's Park). On Nov. 1st the movement increased still further, the main direction being N.W., but south of the Thames also to S.W., and sixteen observers commented on the impressive scale of the passage; analysis of eleven counts made from 07.50 to 15.50 hrs. gives a passage rate of *c.*240 an hour (maximum, *c.*2,200 at King George V Res., Essex, from 07.50 to 10.50 and from 12.50 to 15.50 hrs.). Nov. 2nd was a Monday and many would-be observers were back at work, but the movement continued and was probably at its heaviest on this day; analysis of eight counts made between 07.20 and 09.30 hrs. gives a passage rate of *c.*270 an hour (maximum, *c.*1,325 moving between N.W. and S.W. over Kensington Gardens from 07.20 to 08.25 hrs.). The scale of the diurnal migration was reduced dramatically on Nov. 3rd, but birds were still recorded almost daily up to the 30th, with *c.*100 passing S.W. over Leatherhead on the 8th the largest number reported.

It is almost impossible to make a quantitative analysis of the total immigration, but no less than 9,000 birds were seen during the twenty-six timed counts made on Oct. 30th, 31st, Nov. 1st and 2nd. On average the counts represented only a fifth of the period of diurnal passage on any day and at no point of time were observations being made on a front of more than five miles, or, more cogently, an eighth of the diameter of the Society's area. It is conceivable on these bases that no less than 360,000 Skylarks passed over London during the four days of peak movement alone !

Hirundines

A pronounced broad-front movement occurred throughout the area from May 4th to May 7th. The majority of birds involved were Swallows; highest counts, 124 flying N. across a mile-long front in the Staines area, Middx., from 13.30 to 14.10 hrs. on May 6th, and c.55 flying N.N.E. over Barn Elms Res., Surrey, from 19.40 to 20.35 hrs. on May 7th (DIMW). Details of a clearly linked movement across the southern half of the Irish Sea were published in *Bird Migration*, Vol. I, No. 2, p. 85.

277 Sand Martin

An early bird at Hersham S.F., Surrey, on Mar. 15th (GHG) preceded by six days the first seen at any South Coast observatory; a late bird at Banbury Res., Essex, on Dec. 8th (RB, CLD).

Of several interesting ringing recoveries, the most surprising were of juveniles ringed at Littlebourne, Kent, on July 16th and 17th, 1959, which were caught 44 miles to W.N.W. at Romford, Essex, on Aug. 3rd and 2nd respectively.

281 Hooded Crow

E* King George V Res., one on Jan. 31st (BSMs). Rainham Marsh, one on Nov. 29th (JHB).

M Hampstead Heath, one from Dec. 19th to 31st (DEDC, PC, AMCD).

282 Rook

Several records of parties moving N.W. over the Lea Valley, Essex, and Regent's Park, Inner London, on Oct. 26th, Nov. 1st, 3rd, 4th and 5th; the largest numbers reported were 165 passing over King George V Res., Essex, on Nov. 3rd (BSMs, DIMW).

283 Jackdaw

M Inner London: Kensington Gardens, up to eight were present "early in the year", but it is doubtful whether any pairs even attempted to nest (CHH, CHFP). Euston, one flying N. on Jan. 30th (EHW), the only winter occurrence away from Kensington Gardens. Several records of flocks moving N.W. over the Lea Valley and Inner London from Sept. 15th to Nov. 15th; the largest numbers reported were 38 flying N.W. over King George V Res., Essex, on Nov. 3rd,

10 moving in the same direction over Regent's Park, Inner London, on Nov. 4th, and at least 31 flying W. over Bloomsbury, Inner London, on Nov. 15th (sc, BSMs, DIMW).

284 Magpie

A record of four flying high and moving N.W. over Honor Oak, Surrey, on Nov. 6th (PJO) is of particular interest in view of the pronounced diurnal passage of other corvids at this time.

286 Jay

The number of Jays present in an area of 150 acres, east of King George V Res., Essex, rose from four to thirteen during the main period of autumn immigration (BSMs), but the only definite record of movement came from Wisley Common, Surrey, where a total of 94 were seen moving N.W. or N. into the London Area on Oct. 11th (GHG).

Tits

Increased numbers of Blue Tits were first noted at the end of August and by mid-September it was obvious that an irruption of *paridae* was taking place. Unfortunately regular observations were made only in Central London; nevertheless it is clear that the main movement throughout the London Area was from Sept. 18th to the third week in October, with passage pronounced again in early November. In addition to Blue Tits, Great, Coal and Long-tailed Tits also took part in the irruption. Attention is drawn to the thirteen observed directions of migrating Tits:

W.	S.W.	S.	S.E.
2	5	4	2

These suggest that the movements were different in character from those recorded in the autumn of 1957, when, apart from some early random movement, the main stream of Tits moved N.W. from the south-east coast (*L.B.R.* 1958, pp. 62 to 65). No quantitative analysis is possible for the irruption as a whole, but counts of Great, Blue and Coal Tits in an area of 150 acres at Sewardstone, Essex, made before and after the last wave of birds in the third week of November, showed that the number present rose from 56 to 122 (BSMs). A fuller analysis of these movements and those elsewhere in Britain is being prepared by sc and will be published in due course.

292 Marsh Tit

M Inner London: Cripplegate, one from Sept. 10th to Oct. 2nd (PJK, MSF, RBW).

293 Willow Tit

Little change in the distribution of this species in Middx.; breeding season records from elsewhere are given in full,

- H Broxbourne Woods, one or two birds throughout the year, one carrying food on May 9th (BSN). Northiam, a pair with young on July 7th (EHW).
- K West Wickham, one pair bred (DH).
- S Bookham Common, two on Apr. 12th (PRC), otherwise records of single birds only (GB). Gatton Park, one on Apr. 14th (HB). Puplet Wood, Farleigh, one on May 24th (ADB). Selsdon Wood, four pairs present and one nest found (ADB). Tadworth, one singing from Mar. 1st to May 8th, two on Apr. 14th (HB). Walton Heath, two singing on Mar. 13th and one on Apr. 30th (HB).

294 Long-tailed Tit

- M Inner London: Holland Park, two in January and February, one on Oct. 24th and two on Dec. 10th (EPB). Lambeth Palace, three in gardens on Dec. 22nd (GHG).

296 Nuthatch

- M Inner London: Recorded from only two localities, Holland Park and Kensington Gardens, but a pair bred in each. The number of young reared is not known, but up to five or six were seen in Holland Park after the breeding season (six observers).

298 Tree Creeper

- M Inner London: Bloomsbury, one in Gordon Square on Dec. 3rd (EHW). Holland Park, single birds on Jan. 4th, July 9th, 13th and 14th (RB, per EPB). Regent's Park, one on Jan. 24th (EHW).

299 Wren

Exceptionally widespread in the City of London throughout the autumn and early winter; largest numbers in the Cripplegate area, where a maximum of eight were seen on Oct. 16th (PJG), but up to four were also recorded from Queen Victoria Street, Lincoln's Inn Fields, Paternoster Row and Lambeth Palace. Elsewhere in the area this influx appears to have gone unnoticed, apart from a well-watched area of 150 acres at Sewardstone, Essex, where the numbers present rose from *c.*50 to *c.*200 in the third week of November (BSMs).

301 Mistle Thrush

Several autumn records, when related to the general pattern of diurnal migration, provide clear evidence of immigration.

- E* King George V Res., 200 flying S.E. at noon on October 31st (BSMs). Sewardstone, 285 dispersed to S.W. at 10.00 hrs. on Nov. 7th (BSMs).
- M Staines area, a number of *c.*120 large thrushes moving W. and N.W. on Nov. 1st were of this species (BEC). Inner London: Regent's Park, four flying N.W. on Oct. 16th, seven N. on the 20th, a flock of 35 W.N.W. on the 29th and six N.W. on Nov. 1st (DIMW).
- S Leatherhead Watercress Beds, parties of six flying N. to W.N.W. on Oct. 31st and Nov. 1st (MJC).

302 Fieldfare

A single bird was present at Beddington S.F., Surrey from May 17th to Aug. 16th (BRS); apparently the first summer record for the London Area.

Otherwise recorded up to Apr. 19th and from Oct. 3rd, with massive diurnal movements from Oct. 31st to Nov. 2nd. The immigration was broadfront throughout the area and analysis of records submitted suggests an average passage rate at five localities on Oct. 31st of *c.*120 birds an hour (maximum, *c.*200 flying between W. and N.W. at Beddington S.F., Surrey, from 12.30 to 14.05 hrs.), at eleven localities on Nov. 1st of *c.*325 birds an hour (maximum, *c.*900 birds flying W. to N.W. over West Norwood, Surrey, from 10.00 to 11.00 hrs.) and at four localities on Nov. 2nd of *c.*85 birds an hour (maximum, *c.*125 flying between S.W. and N.W. over Kensington Gardens, Inner London, from 07.20 to 08.25 hrs.).

303 Song Thrush

Mainly a nocturnal migrant, but small diurnal movements were recorded at several localities from Oct. 20th to Nov. 1st. One ringed at Havering, near Romford, Essex, on Oct. 10th, 1959, was recovered at Torres del Rio, Navarra, Spain, on Nov. 21st, 1959.

304 Redwing

Fairly large diurnal movements were recorded at several localities from Oct. 31st to Nov. 1st. The main direction of immigrants was to N.W., but in S.W. Middlesex the birds observed moved S.W. The largest number recorded was *c.*600 flying W.N.W. over King George V. Res., Essex, from 07.50 to 10.50 hrs. on Nov. 1st (BSMs), and up to 100 were seen (generally before 11.00 hrs.) at five other localities on that day. Other autumn passage records from Oct. 4th to mid-November. At Regent's Park, Inner London, at least four, and occasionally nine, were present from Feb. 9th to Mar. 1st (DIMW); the tendency of this species to become a regular winter visitor to central London Parks is supported by several late winter records in 1960.

307 Ring Ouzel

- E* Havering, a hen in Bedfords Park on Oct. 18th (JEF).
- H Old Parkbury, a cock on Apr. 5th (EHW). Radlett, a first-winter cock on Oct. 11th (JFC, RAC).
- M Queen Mary Res., a cock present from Jan. 11th to Mar. 30th. was caught and ringed on Mar. 8th (PRC, REE, BEN, AQ); apparently only the second winter record for the London area.
- S Banstead Heath, two to three birds from Oct. 12th to 18th (HB). Epsom, one on May 2nd (SDGS). Richmond Park, a hen from May 4th to 7th (NRD, BAM).

308 Blackbird

Still increasing in Inner London; at least 200 singing cocks or pairs

were reported by eight observers from areas which included only two of the central parks and only a fraction of the Metropolis.

A pronounced autumn movement from Oct. 10th until Nov. 15th, birds passing both nocturnally and diurnally over most parts of the area between those dates, with peak arrival overnight on Oct. 31st.

311 Wheatear

A pair frequented the Cripplegate bombed site in Inner London from Apr. 14th to May 10th and was particularly attached to a basement wall, which was unfortunately demolished on the latter date (PJHn).

Recorded from seven localities in November, the last at Mitcham Common Rubbish Tip, Surrey, on Nov. 22nd (PJG, RCR).

317 Stonechat

Breeding season records are given.

E* Nazeing, a pair from June 16th to 23rd (BSMs).

H Cheshunt, a cock on June 13th (BSMs).

K Shoreham, a cock on July 11th (WIB).

S Esher Common, a juvenile on Aug. 15th (MJC, SG). Manor Farm, Addlestone, a pair and two juveniles on Aug. 23rd (GHG).

318 Whinchat

Evidence of a decrease in the breeding population, only 14 pairs being reported from the usual areas. Special attention should be paid to this species in future.

320 Redstart

Breeding season distribution:

E* Hainault Forest, one pair nested (CLD). Epping Forest, at least eight pairs bred (RB, BSMs).

South Weald Park, a male in song, May 16th (RBW).

Warley, a male on June 20th (RBW).

H Broxbourne Woods, a minimum of two pairs (BSN, EHW). Cuffley Great Wood, one pair reared young inside a Scouts' dining tent (EHW). Hertford Heath, two pairs (EHW).

M Ruislip, a cock on June 21st (CAW). Trent Park, three pairs (BSMs).

S Ashted, at least one pair (MJC, RES). Oxshott, a pair and four young on June 3rd (BEC, JFC). Richmond Park, about six pairs during breeding season, at least two rearing young (VFH *et al.*). Shirley, a cock in song on Apr. 26th and May 3rd (HEP).

321 Black Redstart

Although the breeding population in the City of London remained stable and may have gained two unmated cock birds, the small colony at the Croydon Power Station did not return and the number of records from elsewhere in the area decreased noticeably.

E* Girling Res., a cock on July 27th and 29th, two cocks on Aug. 2nd (RB, JCE). King George V Res., single birds on Jan. 11th and Feb. 24th (DK, BSMs).

- H Rye Meads S.F., a cock on Apr. 26th (TWG).
 M Brent Res., one on Apr. 10th (LAB). Inner London: City, recorded from Apr. 9th until Oct. 19th; three, possibly four pairs bred successfully in the Cripplegate area, one of these being double-brooded, and another pair reared one brood near St. Paul's Cathedral; solitary cocks were also present during the breeding season at Bridgewater Square, Paternoster Row and in the Minories, E.C.3 (many observers).
 K Dartford, one pair bred (KCS per WIB). Elmers End S.F., an immature cock on Nov. 30th (HPM, MM, AS). Woolwich Arsenal, an immature cock singing on June 4th (RJF).
 S Croydon Power Station, a cock seen and heard occasionally during the summer, but no evidence of breeding (BRS). Epsom S.F., one on Apr. 4th (JGS). Hersham S.F., a hen on Apr. 4th and 25th (DP).

322 Nightingale

That part of Essex which is within the Society's area remains the stronghold of this species near London; at least 12 singing cocks were counted between Fairmead Bottom and Connaught Water, Epping Forest, on May 10th (GCG). No records were received for Middlesex or Hertfordshire, but birds were noted in the breeding season at five localities in Surrey and two in Kent.

325 Robin

Although only two observers submitted records of supposedly migrant robins, they are given below since the occurrences are simultaneous with large arrivals on the East coast of Britain.

- M Inner London: Regent's Park, "unusually prominent" in the early morning of Oct. 6th (DIMW).
 S Leatherhead Watercress Beds, a "small but noticeable increase" on Oct. 3rd (MJC).
 One recovered at Holme Way, Herefordshire, on Jan. 18th, 1959, had been ringed at Morden, Surrey, on Dec. 8th, 1957.

327 Grasshopper Warbler

Exceptionally numerous or obvious.

- H Broxbourne, up to six singing in Broad Riding Wood in June (TWG, BSN, EHW). Dane Mead, up to four singing in May (TWG, BSN, EHW). Hertford, one singing in Balls Wood on Apr. 30th (LLE). Hertford Heath, at least two singing in April and May (EHW). Hilfield Park Res., a migrant on Aug. 28th (BLS). Monks Green, one on May 9th (BSN).
 M Enfield chase, one singing in June and a family party in Whitewebbs Park on July 21st (BSMs). Hampstead Heath, one on Apr. 21st, the first there for at least 40 years (PC). Mill Hill, one pair bred (EHW). Poyle G.P., one singing from May 2nd to June 14th (DGH). Scratch Wood, one pair (JBT). Stanwellmoor G.P., one singing on May 3rd (BEC, JFC, SKR). These are the first records submitted for Middlesex since 1956.

- S Ashtead Common, up to 12 singing during May (BEC, JFC). Bookham Common, at least three singing in breeding season (GB). Oxshott, song was heard from Apr. 15th to July 30th and at least seven sang in May and June (BEC, JFC, MK, SG, AG).

These records point to the fact that no less than fifty grasshopper warblers were singing at some time in the London Area in 1959. This species was noted as unusually common in Essex during the spring and summer, vide *E.B.R.*, 1959, p. 36.

333 Reed Warbler

- M Inner London: Regent's Park, a family party on July 30th (EHW).

338 Aquatic Warbler

- S Beddington S.F., a juvenile trapped and ringed on Sept. 20th (BRS). This constitutes the fifth record for the London Area.

343 Blackcap

- E* Hornchurch, a cock in Emerson Park on Feb. 14th (BPH, MHR).

348 Lesser Whitethroat

Reported from only eleven localities during the summer, but no accurate assessment of the breeding population can be attempted since the records submitted of this species and other *Sylvias* are purely random selections.

354 Willow Warbler

- M Inner London: Holland Park, a pair bred successfully (EPB).

356 Chiffchaff

Winter records only are given:

- E* Romford S.F., one from Dec. 28th to 31st (RB, RRS).
 M Hatton Cross, one in St. Anthony's Wood on Dec. 22nd (JC, MRN).
 S Fetcham Mill Pond, one from Dec. 12th to 31st (MJC, DP). Beddington S.F., a remarkable series of records with up to three in the first four days of January, two until Feb. 15th and one until 22nd (BRS).
 K Elmers End S.F., one on Feb. 22nd, another ringed bird first seen on Mar. 28th and eventually trapped on Apr. 5th, was found to have been ringed at Beddington S.F. on Jan. 3rd (HPM). This bird had almost completed a body moult and resembled one of the Northern forms, the description submitted suggesting *abietinus*.

357 Wood Warbler

All records are given.

- E* Fairlop, one on July 26th (ACP).
 H Broxbourne Woods, one pair bred successfully (BSN).
 M Inner London: Bloomsbury, one singing in Brunswick Square on May 5th (EHW). Regent's Park, single birds on Apr. 27th and Aug. 3rd (DIMW, EHW).
 K Cudham, one pair probably nested (AWB). Hayes Common, a male in song on June 8th and 9th (AWB). Northfleet, one on Aug. 2nd (RJF).

S Arbrook Common, one pair during breeding season (BEC, JFC, SG). Banstead Wood, up to two males singing in May (RHBF, EMH). Chelsham, one pair nested and an unpaired male also present in May (HEP) and a pair at Worm's Heath on July 14th (ADB). Esher Common, three pairs present on May 16th (BEC, JFC, SG). Walton, a pair near Burhill House on June 13th (GHG).

Although this species was recorded from a similar number of localities as in 1958, several observers drew attention to its absence from or scarcity in normal haunts such as Stanmore Common and Harrow Weald, Middx., and Mickleham, Box Hill and elsewhere on the North Downs in Surrey.

364 Goldcrest

A pronounced autumn movement throughout the London Area was most obvious in Inner London, where nocturnal arrivals were first noted on Sept. 23rd and passage continued until Oct. 28th. Birds were seen in six localities, the maximum being six at Cripplegate on Oct. 20th (PJHn). Following this movement, up to three were recorded in Holland Park until the end of the year (EPB).

365 Firecrest

M Mill Hill, one on Oct. 29th (EHW). Stanmore Common, one on Nov. 9th (EHW).

S Weybridge, one with Goldcrests and Coal Tits on Nov. 14th (GHG).

366 Spotted Flycatcher

The Inner London breeding population did not return until the last four days of May and the few spring records received from elsewhere suggest a similar delayed arrival was experienced throughout the area.

368 Pied Flycatcher

In contrast to the exceptional passage in April 1958, the only spring record is of a hen at Addington, Surrey, on May 18th.

Widespread in the autumn, with records from nineteen localities throughout the area between Aug. 12th and Oct. 8th; three conspicuous movements in September, from the 7th to 9th, on the 17th and 18th and the 22nd and 23rd, with maximum at least seven at Hampstead Heath, Middx., on Sept. 17th.

371 Hedge Sparrow

Although classed as "plain and rather dull" in *Birds in the London Area Since 1900, 1957*, this species should not be ignored. Inner London records for the year under review are of considerable interest. The remarkable size of the breeding population in Regents' Park is detailed on page 104, and there is evidence to suggest that this species is becoming increasingly widespread in the Metropolis, although the records submitted to date do not permit a general summary. At the

Cripplegate Bombed Sites, a single bird was seen on Aug. 31st and up to five were recorded from Oct. 9th to Dec. 21st, a similar pattern of occurrence there to that of the Wren.

373 Meadow Pipit

The largest number recorded during the autumn diurnal passage was c.900 flying N.W. over King George V Res., Essex, between 07.50 and 15.00 hrs. on Nov. 1st (BSMs).

379 Rock and Water Pipit

All records are given and are presumed to be of *petrosus* unless otherwise stated.

- E* King George V Res., two on Oct. 24th (RB). Walthamstow Res., single birds on Feb. 8th, Nov. 14th and Dec. 27th (RB, TWG, BSMs).
- H Aldenham Res., one on Dec. 31st (LAB). Rye Meads S.F., one from Apr. 11th to 19th considered to be *spinoletta* (TWG, BSMs, BSN).
- M Brent Res., one on Nov. 1st and 2nd (LAB, PLB). Kempton Park Res., one on Mar. 22nd (BEC). King George VI Res., one on Mar. 22nd (AQ), up to three between Sept. 20th and Nov. 22nd (BEC, DEDC, JFC, CMV). Perry Oaks S.F., one on Sept. 22nd (DGH) and up to three on Oct. 24th and 25th (BEC, PRC, HPM, AQ). Ponders End S.F., one on Apr. 25th, considered to be *spinoletta* (BSMs) and one on Nov. 1st (JCE). Queen Mary Res., one on Mar. 15th considered to be *spinoletta* (ARM, AQ), three on Sept. 26th and up to four on many dates until Nov. 15th (many observers). Staines Res., single birds from Nov. 1st to 8th and Dec. 6th to 15th (BEC, JFC, AQ).
- K Dartford Marsh, two on Feb. 21st (FJH). Littlebrook, three on Feb. 21st (FJH). Stone Marshes, single birds on Feb. 22nd and Nov. 29th (HLR). Swanscombe Marshes, one on Sept. 26th (CDJ) and present in small numbers from Nov. 1st onwards, maximum six on Nov. 15th (WIB, JMC, HLR).
- S Barn Elms Res., one on Oct. 2nd (BAM), two on Oct. 5th (NHP) and one on Oct. 24th and 25th (JC, SG, NHP). Beddington S.F., one on Apr. 14th considered to be *spinoletta* (BPA). Hershams S.F., one on Mar. 21st (SG). Island Barn Res., one on May 2nd considered to be *spinoletta* (DP). Leatherhead Watercress Beds, one on Nov. 1st and 8th (MJC). Molesey Res., one on Nov. 1st (BEC). Molesey S.F., one on Nov. 1st (BEC). Walton Res., one on Sept. 29th (PJH), one on Oct. 13th (JFC) and two on Oct. 31st (AJC).

380(a) Pied Wagtail

Selected records for Inner London only are given.

- M Inner London: Regent's Park, a pair bred rearing one (DIMW). Holland Park, one or two in May and June (EPB). Kensington Gardens, eight by Round Pond on Oct. 20th (PES), these birds were almost certainly migrants, as were many of those recorded in the autumn at Regent's Park (page 104).

A first winter bird ringed at Romford, Essex, in February, 1956, was recovered at New Galashiels, Selkirkshire, at the end of the breeding season, 1959,

380(b) White Wagtail

Spring passage throughout the London Area from Mar. 15th to May 19th, with records of five birds from four localities in March, at least 40 birds from fifteen localities in April and 15 birds from twelve localities in May, maximum *c.*10 at Rainham Marsh, Essex, on Apr. 20th (JHB); a late bird at Barn Elms Res., Surrey, on May 28th (CAW). Autumn records are given in full.

- M Inner London: Regent's Park, at least one on Oct. 5th (DIMW).
- K Swanscombe Marshes, single birds on Sept. 21st, Oct. 2nd and 16th (RJF).
- S Hersham S.F., six on Sept. 12th and one on Oct. 3rd (GHG).

381 Grey Wagtail

Breeding season records only are given in full.

- E* Fairlop G.P., a pair with a fully fledged youngster from July 29th to Aug. 9th (RB).
 - H Broxbourne S.F., a pair with two young on June 28th (JCE). Moor Mill, a pair bred unsuccessfully (EHW). Rye Meads S.F., a juvenile appeared on July 12th staying for several weeks (BSN). West Hyde, three breeding pairs (EHW).
 - M Enfield Chase, one carrying nesting material at Merryhills Brook on May 27th (BSMs). Harefield, an adult and two young on June 8th (TLB).
 - S Burford Bridge, a pair in May (GMC, IRB). Gatton, one pair bred (HB). Godstone, two pairs and at least one bred (ADB, RPC). Hampton Court, one by River Mole on July 26th (RHK). Leatherhead, one pair by River Mole seen carrying food on May 30th, a pair accompanied by two juveniles on Sept. 21st (GMC). Leatherhead Watercress Beds, one pair bred unsuccessfully (MJC).
- Exceptionally numerous in and over London during autumn and early winter; a total of *c.*90 individuals recorded between Sept. 14th and the end of December, the majority being on passage although birds were undoubtedly wintering in five localities by the end of the year.

382 Yellow Wagtail

Observers reported approximately 140 pairs in breeding season, but since several known breeding areas were not included in their surveys the total breeding population must be considerably larger. The colony at Beddington S.F. contained a similar number of pairs as in the previous year and birds resembling races other than *flavissima* were recorded there and elsewhere in the London Area. Of these, the most interesting was a bird with the plumage characters of a cock Ashy-headed Wagtail (*m.f. cinereocapilla*), which was discovered mated and tending young in a nest at Perry Oaks S.F., Middx., in early June (BEC, DGH, AQ, CMV). Full details have been received of this record, only the second instance of birds resembling *cinereocapilla* breeding in Britain,

A pair of Blue-headed Wagtails (*m.f. flava*) was seen at Brent Res., Middx., on June 24th (LAB).

383 Waxwing

Records of some seventy birds, the largest number recorded in any one year since 1949-1950, are given in full.

- H Elstree, one on Mar. 11th (EHW). Broxbourne, three in observer's garden on Jan. 17th (BSN).
- M Queen Mary Res., one on Feb. 8th (JBC).
- K Barnehurst, three on Dec. 28th (WIB). Bexleyheath, three to five from Dec. 20th to 23rd (WIB). Green St. Green, a flock numbering at least 15 present from Mar. 18th to Mar. 31st, maximum c.20 on the 23rd, smaller numbers until Apr. 22nd, a remarkably late date. (PRC, RCR, DT, PMW). Orpington, four on Dec. 30th (RGS).
- S Bookham Common, a flock which had probably been present since January (per MJC) was closely observed between Mar. 27th and Apr. 12th, maximum 20 from Apr. 4th to 12th but never less than 13 were recorded on any date (many observers).

384 Great Grey Shrike

- S/M West Molesey: Chelsea and Lambeth reservoirs, one first seen on Nov. 1st, 1958, was continually present until Jan. 18th; as in the previous year the bird occasionally flew across the River Thames to hunt the bushes bordering Stain Hill Res. (BEC, JFC, PRC, SG, AQ).
- K Swanscombe Woods, one which spent much of November and December just outside the Society's area finally flew into it on Dec. 22nd (RI).
- S Addington, one on Mar. 12th (IRB). Croydon, one on Dec. 8th (DBP). Walton Heath, one on Feb. 1st (LIC).

388 Red-backed Shrike

All records are given; at least eighteen pairs were present during the breeding season.

- E* Brentwood area, a pair at Thrift Wood from May 30th to June 13th (CWB). Epping Forest, at least two pairs bred (JF, BSMs, FRT). Thornodon Park, two cocks on May 24th and 31st, a hen also on the latter date (TB, RRV).
- H Bell Bar, a hen on July 7th (EHW). Cuffley Great Wood, one on June 6th (LJJ). Moor Mill, a cock on Apr. 29th (EHW).
- M Eastcote, one pair bred (GCG). Grange Park, one pair bred (BSMs). Ruislip, a pair on May 27th, a cock on the 31st (TLB). Southgate, one pair bred (BSMs). Trent Park, one pair believed to have bred (RFP). Winchmore Hill, one pair bred (BSMs).
- K Otford, a cock on June 26th (JMC).
- S Ashted, two pairs, one breeding successfully (MJC). Bookham Common, a hen on June 20th (SK). Cobham, a pair in Foxwarren Park on June 20th (GHG). Coulsdon, a pair with two juveniles on July 26th (EMH). Esher, a cock from June 16th to July 5th (GB). Esher Common, a cock on July 14th, a pair on the 15th and 18th and one

on Aug. 15th (JFC, SG, GL, BAM, MJC). Epsom, one carrying food to a hawthorn in a small allotment surrounded by buildings on several occasions on Aug. 3rd (MJC). Epsom Common, a pair present during the summer (MJC). Ham Common, one on May 10th (AJC). Molesey S.F., a cock on June 11th (JFC). Stoneleigh, a cock on July 15th (MJC). West Ewell, two pairs, one breeding successfully (MJC). Woldingham, a pair with three young on Aug. 4th (FWPR).

389 Starling

Visible migration to the W. or N.W. was noted throughout the area from late September to early December, the movements being most noticeable between Oct. 25th and Nov. 5th and maximum numbers, "over 1,000 per hour during the early morning" flying N.W. over Honor Oak, Surrey, on Oct. 25th, *c.*2,000 moving N.W. over King George V Res., Essex, between 12.00 and 14.50 hrs. on Nov. 1st (BSMs) and *c.*3,330 flying to W. over Kensington Gardens from 07.20 to 08.25 hrs. on Nov. 2nd (RES). Eight observers from all parts of the London area submitted counts made on Nov. 1st; these suggest that the average rate of passage to the N.W. was approximately 500 birds per hour throughout the morning and that a total of 32,000 birds could have passed over on Nov. 1st alone.

An adult male ringed at Elm Park, Romford, Essex, on Mar. 4th, 1956, first recovered as one of a breeding pair at Elk, Bialystok, Poland, on Apr. 5th, 1957, was recaptured there and released again on Apr. 10th, 1959. Two others ringed at Romford in January and February, 1958, were recovered during the breeding season of 1959 in Schleswig-Holstein, Germany and near Kopparberg, Sweden.

391 Hawfinch.

Breeding season distribution:

- E* Epping Forest, a pair with young on June 3rd (EHW). Parndon Wood, one on May 31st (EJS). Pilgrims Hatch, one pair bred successfully (RRV).
- H Broxbourne Woods, noted in seven separate localities between early May and July (BSN).
- M Bentley Priory, one pair bred (EHW). Harrow Weald Common, one on June 12th (JFC, RAC). Harrow, a pair and one juvenile at Orley Farm on July 15th and 26th (CHF). Hornsey, at Queen's Wood, one on June 7th and 14th, two cocks and two hens on the 28th (MJT). Stanmore Common, one pair bred (EHW). Stanwell, at Spout Wood, a pair on Apr. 19th and one on May 10th (BEC, JFC, AQ). Trent Park, one pair bred (BSMs).
- K Chislehurst Common, a pair on June 10th (EMH). Dean Bottom, an adult found dead on June 2nd in an area where breeding took place in 1957 and 1958 (KCS). Otford Mount, a pair on Mar. 29th (HFG).
- S Addington, one in flight on May 15th (DS). Crystal Palace, one on May 19th (IRB). Dulwich Woods, a pair in May (IRB). Oxshott Heath, up to eight from Mar. 14th to late April, song and display was

frequently noted but no proof of breeding (BEC, JFC, MJC, SG, AQ). Reigate, four on July 25th (DEDC). Weybridge Heath, one on several dates in May (GHG). Wimbledon Common, a cock and two hens on Mar. 29th (SK).

392 Greenfinch

Diurnal passage to N.W. was recorded at three localities in the late autumn, at Regent's Park, Inner London, where up to six were seen passing with other finches on seven dates between Oct. 12th and Nov. 1st (DIMW), at West Norwood, Surrey, where 30 flew past between 10.00 and 11.00 hrs. on Nov. 1st (TS) and *across the Lea Valley, where a total of 147 passed over from Oct. 31st to Nov. 4th (BSMs).

393 Goldfinch

Details of breeding success and autumn passage in Regent's Park, Inner London, appear on page 105. *Diurnal movements to N.W., involving 103 birds, were also recorded in the Lea Valley on most days between Oct. 29th and Nov. 6th.

394 Siskin

Exceptionally abundant during the autumn and early winter; details of the larger parties observed during the year are given below.

H Maple Cross, c.70 on Nov. 28th (BPP). Turnford, 32 on Nov. 18th (LLE).

M Brent Park, up to 70 from Dec. 25th to 31st (six observers). Osterley Park, c.30 on Dec. 14th (DGH). Stanmore Common, c.50 on Dec. 26th (PLB). Stanwell, c.40 on Nov. 27th (BEC, JFC, SG) and c.25 on Dec. 26th (BEC, JFC). Uxbridge, c.20 on Feb. 15th (TLB).

K Beckenham, two flocks totalling over 50 birds in December (AGS, DDM). Petts Wood, c.25 on Jan. 2nd (JMC). West Wickham, 29 on Jan. 17th and 82 on Dec. 25th (DH).

S Cobham, 25 on Jan. 11th, 40 on Mar. 8th and c.30 on Nov. 8th (GHG, DP). Godstone, c.35 on Dec. 28th (DS). Oxshott Heath, c.70 on Mar. 14th and at least 20 until the 27th (MJC, SG, AQ).

395 Linnet

Another participant in the widespread finch movements of late autumn. The largest numbers were *c.55 passing N.W. over King George V Res., Essex, from 07.50 to 14.00 hrs. on Nov. 1st (BSMs), c.150 which arrived apparently overnight (in the area watched daily) at Chadwell Heath, Essex, on Oct. 31st (KB), "small numbers" moving W. or N.W. all day over the Staines area on Nov. 1st (BEC) and up to 50 passing over Regent's Park, Inner London, on 23 dates between Sept. 26th and early December (DIMW); full details of these records appear on page 105.

396 Twite

S Epsom, one with Linnets at a refuse tip on Feb. 15th (MJC, JGS).

397 Redpoll

Breeding season and Inner London records only are given.

- E* Thorndon Park, two on May 24th and four on the 31st (TB, RRV).
 H Rickmansworth, two on July 9th (DIMW).
 M Trent Park, six pairs during breeding season (BSMs). Inner London: Cripplegate, two on Jan. 15th (EHW). Regent's Park, eight records of one or two birds from Oct. 5th to Dec. 12th (DIMW): details of these records are given on page 105. St. James's Park, one flying W. on Nov. 23rd (DIMW).
 K Keston Common, four on Apr. 26th (WGT).
 S Banstead Heath and Woods, up to six in April and two pairs throughout breeding season (HB, JAF). Burgh Heath, single birds occasionally from Apr. 17th to July 13th (JAF, RHBf). Chipstead, one on May 9th (BEC, JFC). Oxshott, one on July 4th and 5th (DP). Tadworth, one pair during breeding season (HB).

401 Bullfinch

An unprecedented series of Inner London records, those for Holland and Regent's Parks being especially interesting.

- M Inner London: Holland Park, a hen arrived in company with Goldcrests and Chaffinches on Oct. 18th, following a stormy night (EPB). Hyde Park, a pair on July 14th (EHW). Lambeth, a hen in the Palace Gardens on Nov. 16th (GHG). Regent's Park, a pair first seen on Mar. 27th became resident, rearing two young (DIMW, EHW).

404 Crossbill

A pronounced irruption into the London Area in the third week of July; all records for the year are given below.

- E* Havering, c.50 on July 18th, "a few" still present on Aug. 12th (JF).
 M Mill Hill, single birds on July 21st and Aug. 23rd (EHW). Southgate, one on Apr. 24th (BSMs). Trent Park, five on Jan. 9th and 23rd, one on Mar. 20th (BSMs).
 S Esher Common, up to ten from July 18th to Aug. 12th, nine on Sept. 9th (BEC, MJC, GL, SG). Kingston, one flying W. over Kingston Hill on Aug. 4th (BPP). Molesey Res., at least two on Nov. 1st (BEC). Oxshott Heath, 15 on Mar. 15th included five flying high to E., up to eight from Mar. 16th to Apr. 4th, three on July 18th, three flying S.W. on July 20th, single birds on Aug. 23rd and Sept. 1st (many observers).

407 Chaffinch

In the massive diurnal movements of the autumn, this species was one of the most numerous recorded. Passage to W. or N.W. was regularly noted by no less than fourteen observers from Sept. 17th to Nov. 15th. Numbers were low until Oct. 11th, when 72 passed N.W. over Regent's Park, Inner London, from 08.55 to 10.00 hrs. and "a big increase" was noted at Weybridge, Surrey. A large broad-front movement commenced on Oct. 20th and continued until the 26th, when passage rates of 40-80 birds an hour were recorded during

the mornings of most days at Regent's Park, West Wickham, Kent, Dulwich and Honor Oak, Surrey. On Oct. 31st, a huge movement began lasting until Nov. 2nd at least. Analysis of records suggests that the main stream of Chaffinches passed north of the River Thames and that the peak occurred on Nov. 1st. The correlation of six timed counts made on that day shows that birds were passing N.W. between 07.50 and 15.50 hrs. at an average rate of *c.*475 per hour on a broad front from Inner London to Thornwood Common, Essex. With these counts as a base, it is calculable that over 60,000 birds passed through the northern radius of the London Area on this day alone. On Nov. 2nd, *c.*620 were seen flying W. in one hour over Kensington Gardens, Inner London, but the movement ceased after 09.30 hrs.

408 Brambling

Exceptionally scarce outside Surrey; details of the larger flocks, records for Inner London and of diurnal passage in the autumn are given below.

M Inner London: Regent's Park, one on Feb. 22nd and one flying N.W. with Chaffinches on Oct. 20th (DIMW).

S Carshalton, *c.*300 in Oaks Park on Mar. 7th (RCR) and *c.*120 on Dec. 30th (JC). Chipstead, from 600 to 800 on Mar. 14th (JGS). Croydon, *c.*350 near Whitgift School from Mar. 23rd to 25th (SDGS). Leatherhead Watercress Beds, *c.*10 heading W. during morning on Nov. 1st (MJC).

409 Yellowhammer

Five records of diurnal passage are given below.

E* King George V Res., *c.*35 flying N.W. from 12.00 to 14.50 hrs. on Nov. 1st, 57 moving in the same direction from 12.00 to 14.00 hrs. on the 2nd and "a few" on the 3rd (BSMs).

M Inner London: Regent's Park, single birds flying N.W. with Chaffinches on Oct. 31st and Nov. 1st (DIMW).

Particular attention is also drawn to the successful breeding of two pairs in West Meadow of Ken Wood, Hampstead Heath, the two families remaining until October. This constitutes the first record of breeding there for at least thirty years (PC).

410 Corn Bunting

All records are given.

E Lea Valley, not found in former breeding haunts (BSMs). Fairlop, three pairs in May (CLD, ACP). Nazeing Gate, a cock on July 4th (BSMs). Royden, a cock on June 2nd (BSMs).

H Hilfield Park Res., two singing on May 15th and one on June 14th (BLS). London Colney, one on July 13th (EHW). Smallford, one on Apr. 24th (EHW).

M Harefield, one on May 17th (HLR). Perry Oaks S.F., one pair during breeding season (DGH). Staines Moor, *c.*30 at a roost on Mar. 30th (BEC, AQ) and Oct. 25th (JHB).

- K Crayford, Dartford and Swanscombe, "becoming scarce; many nest sites now unsuitable owing to the building of housing estates and factories" (WIB). Eynsford, two singing in May and June (JMC).
 S Beddington S.F., one singing on July 4th (BRS). Molesey Res., five on Nov. 8th (BEC, SG).

415 Cirl Bunting

- H Hilfield Park Res., a cock in song on July 20th (EHW).

421 Reed Bunting

- M Inner London: Cripplegate, one on Mar. 25th (RBW).

423 Snow Bunting

- E* Chigwell S.F., two on Mar. 14th (RB). Fishers Green G.P., one from Sept. 19th to 26th (JCE, DK, BSMs); there is only one earlier record for the London Area. Girling Res., one on Dec. 26th (BSMs).
 H North Mimms, at least six on Dec. 13th (KH, MH).
 M King George VI Res., two from Nov. 8th to 19th (eight observers). Perry Oaks S.F., one or two on Nov. 14th (BPP). Queen Mary Res., single birds on Nov. 15th and 16th (BEC, JFC, MJC, AQ, SKR) and Dec. 13th (BAM).
 S Beddington S.F., one on Oct. 31st and Nov. 1st (BSM, RES).

424 House Sparrow

Attention is drawn to the records of diurnal passage over Regent's Park, Inner London, which appear on page 106.

425 Tree Sparrow

Breeding season records for localities not mentioned in the *L.B.R.* for 1955 to 1957 are given below.

- E Epping Green, c.8 pairs (BSMs). Thornwood Common, at least one pair (DIMW). An adult recovered at Gidea Park, Essex, on Apr. 4th, 1959, had been ringed at Guildford S.F., Surrey, 40 miles to the S.W. on Mar. 1st, 1959.
 H Smallford, several pairs nested in crossbars of power cables (LLE).
 K Danson Park, at least one pair (WIB). Elmers End S.F., c.20 pairs between farm and Elmers End Cemetery (HPM, MM). Lullingstone Park, eight pairs (JMC).
 S Addlestone, at least 29 pairs in the area containing Wey Manor Farm, Byfleet Manor House and New Lines Pond (GHG).
 A remarkable series of autumn records from Regent's Park, Inner London, with up to 13 birds on twelve dates between Sept. 23rd and Nov. 2nd, is set out in detail on page 106.

Additions to London Bird Reports for previous years :

139 Grey Plover

- M Brent Res., one on Jan. 31st, 1954 (MDK).

181 Sanderling

- M Brent Res., one on Jan. 31st, 1954 (MDK).

Seasonal Fluctuations in Numbers of Blackbirds and House Sparrows on a Middlesex Farm, 1954-57

By DAVID C. SEEL

Summary

1. The birds on an area of farmland in north-west Middlesex were studied quantitatively by fortnightly counts for three years.

2. Regular seasonal fluctuations in numbers were observed in two species, Blackbird (*Turdus merula*) and House Sparrow (*Passer domesticus*). Such regular fluctuations were not apparent in the other resident species present.

3. Blackbird fluctuations: Maximum numbers occurred in the autumn, when haws were abundant. Snow and frozen ground in winter and early spring were correlated with a reduction in numbers, and appeared to delay the formation of the breeding season population. The size of the

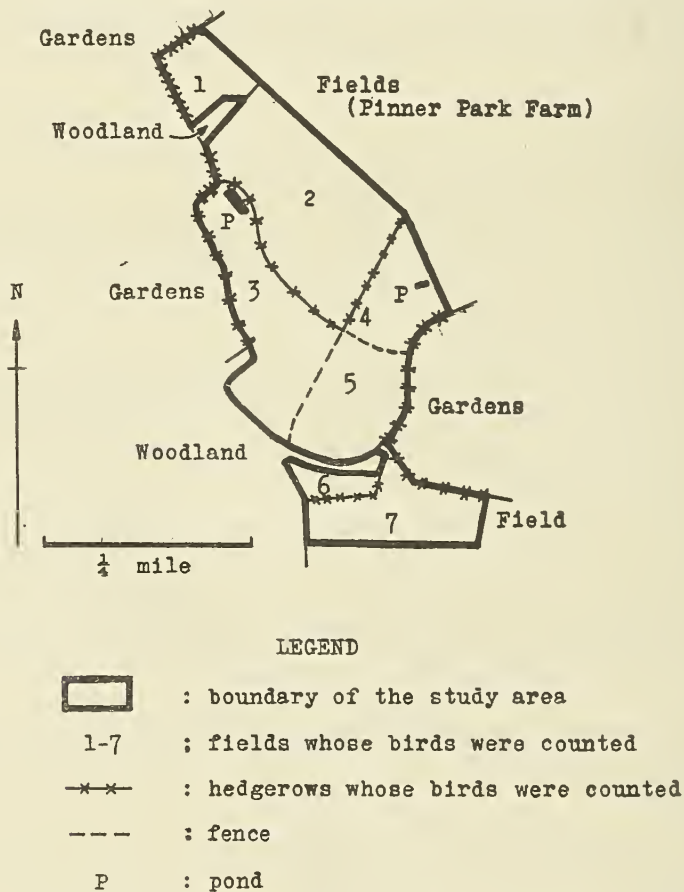


FIG. 1. MAP OF THE STUDY AREA

population in the study-area in the breeding season appeared to be related to the number of days of frozen ground or snow during the previous winter. Minimum numbers occurred in midsummer.

4. House Sparrow fluctuations : House Sparrows, breeding outside the study-area, provided a small population most of the year ; numbers rose slightly during spring when adults came in to collect food ; numbers rose tremendously in July and August when the grain crops ripened, and fell again when these were harvested. House Sparrows appeared to prefer oats to barley.

Introduction

From July, 1954, to August, 1957, inclusive a quantitative study of all species of bird present on a part of Pinner Park Farm, Middlesex, was carried out. Surrounding the farmland on all sides, but most continuously to the south and west, are residential suburbs. The farm covers about 230 acres. The birds of seven fields (total acreage 73.6 acres) and of several hedgerows (total length 2,100 yards), were studied (Fig. 1). The hedgerows are mainly hawthorn. Numerous standard oaks grow both in the hedges and in the fields.

Mixed farming was being carried out in the study-area (hereafter called the "area"). On the average 54% (and never less than 35%) of

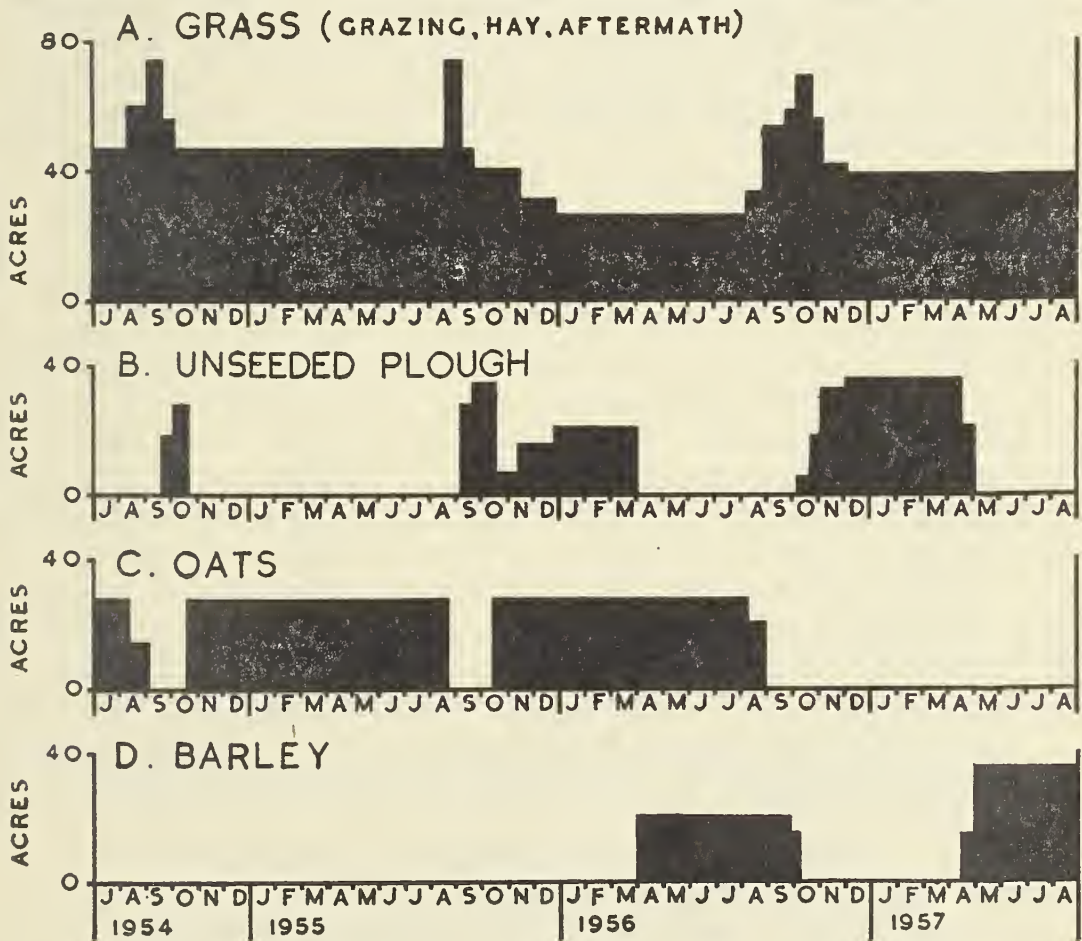


FIG. 2. CROP ACREAGES (TOTAL ACREAGE OF FIELDS : 73.6 ACRES)

the ground was under grass, which provided hay and grazing for cattle. The rest of the ground was being used to grow oats in 1954-6, and barley in 1956/7. The crop cycles are summarized in Fig. 2. Hedging was very irregular and involved during the whole three years only 300-400 yards of all the hedgerows. Hedging was not regarded as a significant factor in the population fluctuations.

The bird population was counted, usually at fortnightly intervals, by two observers, the same route and counting technique being followed each time. Over the three years 80 counts were made. As a result of counting, regular seasonal fluctuations were observed in two species. These fluctuations are described and an attempt has been made to relate these to controlling factors. Such regular fluctuations were not apparent in the other 39 resident species occurring in the area during the three years.

Prior to the survey described in this paper, two pilot surveys were carried out. Together they lasted a year, the first covering one hedge and one field, and the second covering four hedges and seven fields distributed around the farm. The pilot surveys gave experience in counting birds on farmland and enabled a suitable study-area to be chosen.

Fluctuations in the Blackbird population

General annual cycle (Fig. 3): Maximum numbers of the Blackbird population in the area occurred in November and December. (Blackbirds are known to immigrate into Britain from the Continent for the winter.) Following the highest peak there was a general winter decline to an early spring level, often closely approaching the minimum. From March to

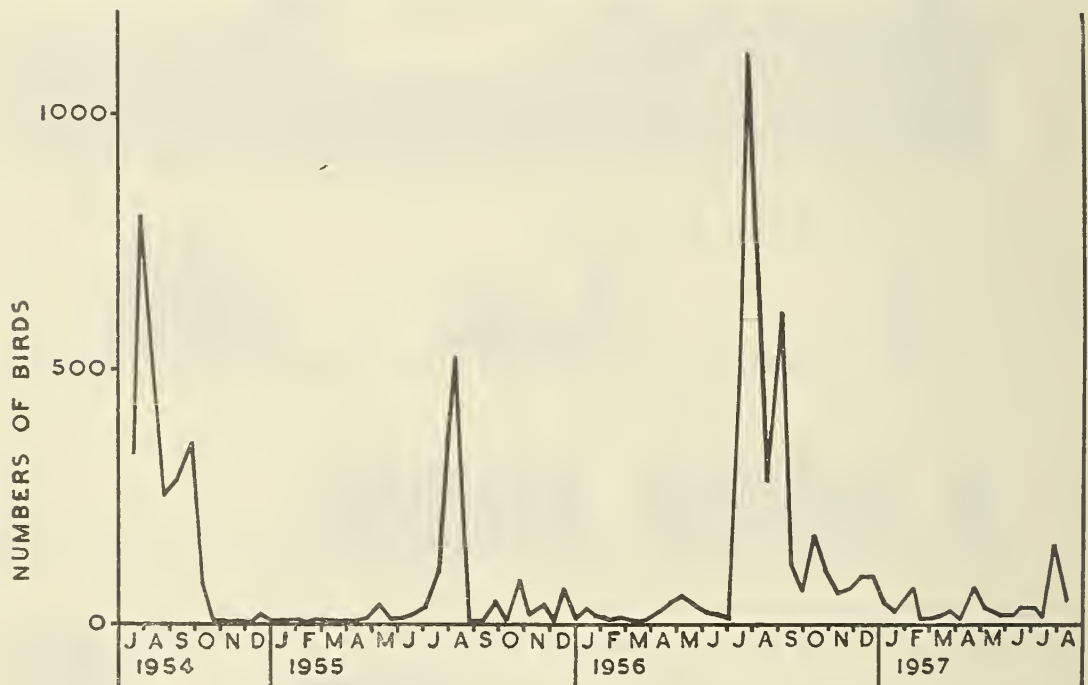


FIG. 3. FLUCTUATIONS IN BLACKBIRD NUMBERS

F1 : Fog — visibility c. 100 yards.

F2 : Fog — visibility c. 35 yards, during first half of count.

F3 : Fog — visibility c. 60 yards.

June Blackbird numbers assumed a level about halfway between the preceding winter maximum and the following summer minimum. In July and August the population was at its minimum, but in late September and in October numbers began to rise sharply to reach the maximum.

Alexander (1932) described a hypothetical cycle consisting of maximum numbers of residents at the end of the breeding season, and a decline through the autumn and winter to a minimum at the beginning of the next breeding season. His data collected in only October-March and May-June appear to support his theory. He proposed that such a cycle might easily be obscured by migration. The data collected at Pinner throughout the year and described in this paper suggest that his hypothetical cycle, if present at Pinner, or even in Oxfordshire, was in fact obscured by movements of birds (whether "local movements" or "migrations").

Details of the cycle at Pinner: The period of the large winter population lasted from October to February in the winter of 1954-5, from October to December, in 1955, and from October to January in the winter of 1956-7. The fluctuations in the graph (Fig. 3) indicate considerable local movement. Due allowance must be made for the misleading counts obtained on foggy days (Figs. 3 and 4). Following the high numbers of November and December of each year there was a steady decline to a low level near the beginning of the year. This decline after the annual maximum suggests a decreasing abundance of food in the area. Hartley (1954) showed that the Blackbird feeds on fruits mostly in the autumn and winter, and that haws form approximately 40% of these fruits, being eaten "at, and immediately after, their ripening". In the area haws were the only common fruits and were seen to be an important food item at this time of the year; this must have been an important factor in influencing bird density.

The early spring low population level might be ignored as being one minor fluctuation in the trend from the high winter numbers to the lower breeding season numbers, but for the fact that this low level was recorded in each of the three years in weather suitable for accurate recording. Population levels, temperatures, and "hard days" for December to March for each year are given in Fig. 4. (For the purposes of this paper a "hard day" was one when there was snow, slush, or ice on the ground, or when the ground was frozen or glazed). It will be seen that hard days caused a reduction in the size of the Blackbird population. Thus, numbers during or immediately after hard days were lower than at other times. This figure shows that the length of the period of hard days determined the duration of the reduced population level. Thus, in 1955 hard days and low population level lasted until the middle of March; in 1956 until the end of February; and in 1957 only briefly in December and January. The figure also shows that the time the hard days disappear determines the time of formation of the breeding season population. The graph for 1957 (Fig. 4) would suggest that the size of the population during late February and March increased directly with temperature. The graphs for 1955 and 1956 show that this was not the case; instead the population at this time was related to the presence and absence of hard days. Fig. 4 suggests that, since "food sets an upper limit to the bird density" (Lack, 1937) hard days bring about a low

population level and prevent formation of the breeding season population by rendering inaccessible food which is mostly in or on the ground. The trend in numbers through the 1956-7 winter, when there were few hard days, suggests that the numbers would decline smoothly through any winter from the maximum to the breeding season population, but for the occurrence of

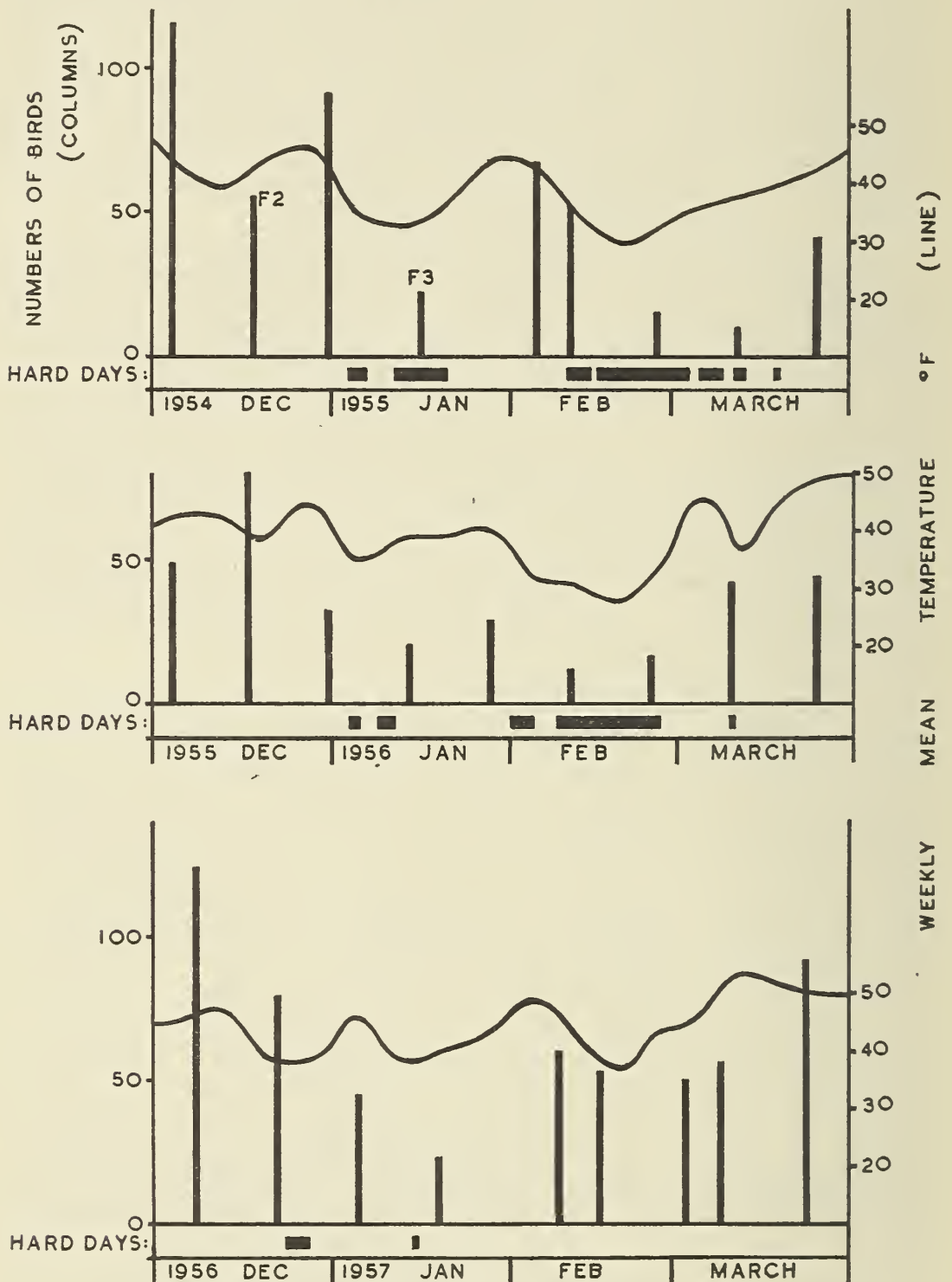


FIG. 4. BLACKBIRD NUMBERS AND WEATHER CONDITIONS (F2 and F3 — see Fig. 3)

hard days, which enforce an early spring minimum before the establishment of the breeding season population.

The level of the breeding season population in 1955 and 1956 was established in March and lasted for 12-14 weeks. In 1957, following a milder winter and few hard days, it was established in February, but still lasted only 12 weeks. The state of the three breeding season populations is summarized in Table I. There was a trend through the three years to an

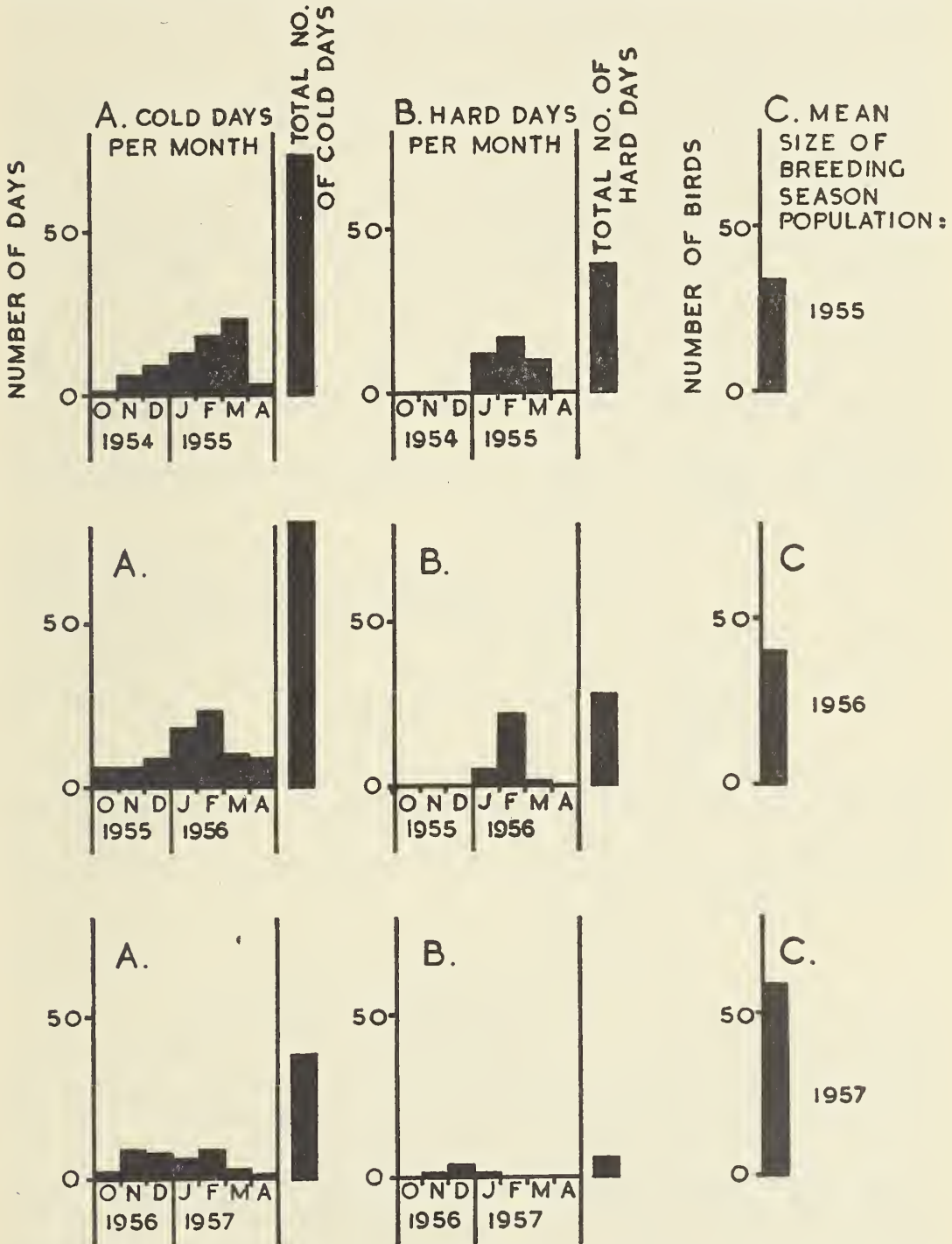


FIG. 5. OCCURRENCE OF COLD AND HARD CONDITIONS AND THE AFFECT ON THE BREEDING SEASON POPULATION OF BLACKBIRDS

increasing breeding season population. Fig. 5 suggests that the size of the breeding season population might have been related to the total number of "cold days" in the previous winter. (A "cold day" was one when the minimum air temperature fell to, or below, 32°F). Thus a winter having many cold days was followed by a relatively small breeding season population, while one having fewer cold days was followed by a larger population. If this is the case, it also suggests that when the total numbers of cold days in two winters were similar (e.g. October, 1954-April, 1955 : 73 cold days ; 1955-6 : 81 days) the distribution of these days became important. Thus, the later the majority of cold days occurred, the smaller the breeding season population. However, a more direct relationship appears to exist between the number of hard days in winter and the size of the population in the following breeding season (Figs. 5 and 6) ; thus the fewer the hard days in winter, the larger the population in the following breeding season. This seems a more likely relationship than the one previously described for temperature. Frozen ground and snow may be more effective than low air temperatures in reducing the population of small animals on which the Blackbird mainly feeds in the summer (Fisher, 1955). If this is so, the adverse effects on the summer food of Blackbirds would have been greatest from the hard days of the winter of 1954-5, and least from those of the winter of 1956-7. As a result the food supply following each of the winters would have been progressively larger ; and consequently the breeding season populations larger, as was the case.

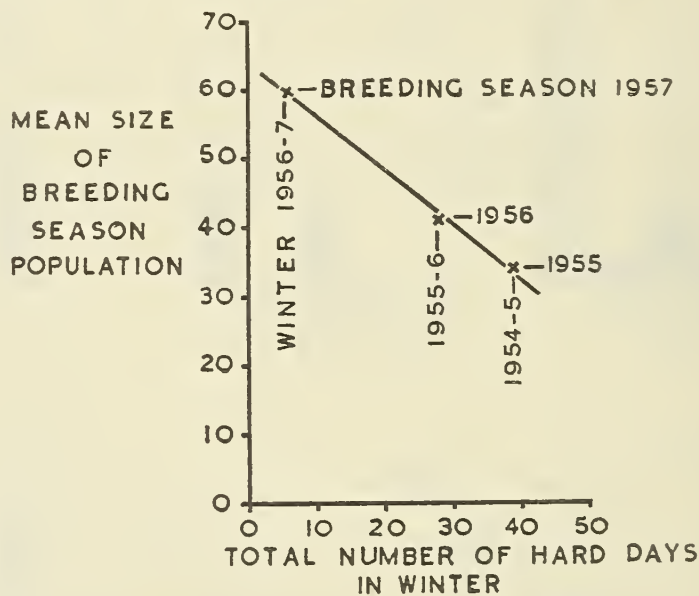


FIG. 6. BLACKBIRD BREEDING SEASON POPULATIONS COMPARED WITH THE NUMBERS OF HARD DAYS IN THE PRECEDING WINTERS

In each summer the population level fell sharply from that of the breeding season to the minimum. Since the length of the breeding season appears to be fixed, the time of the break-up of the breeding season population seems to be predetermined by the time of formation of the breeding season population, early formation leading to early break-up (Table I). From Fig. 3 it

seems clear that, following the breeding season, the Blackbirds mostly moved away from the area. The sudden decline to the midsummer minimum suggests a sudden decline in food abundance, but there were no striking weather changes which might have caused this. It seems that, when breeding was finished, the adults were no longer attracted to the area, and many moved elsewhere to find more abundant food than occurred in the fields, e.g. nearby gardens provide small fruits. It should be noticed, however, that Blackbirds were moving into the fields in October, "the great month of the apple harvest" (Coutts *et al.*, 1954). Water supplies in the area were from two small ponds, one always containing water, the other dry only in droughts, and from ditches, generally dry in the summer. Despite the fact that water was regularly available in the mid-summer at only two points, the movements of Blackbirds were not related to the availability of water; thus there were not more Blackbirds in the area in a damp mid-summer than in a dry one. The population remained at this low level (approximately the same each year) for a period of two to three months.

TABLE I

STATE OF THE BLACKBIRD BREEDING SEASON POPULATIONS 1955-7

	1955	1956	1957
Period of the breeding season population...	March– June	March– June	February– May
Duration of the breeding season population	14 weeks	12 weeks	12 weeks
Number of counts made during this period	8	8	8
Maximum number of Blackbirds counted	42	55	91
Average number of Blackbirds	34.00	40.75	58.75
Minimum number of Blackbirds counted	25	24	41

During the high temperatures of the summer, hedge-fruits ripen and as each kind matures, it becomes available as a food source over a fairly short period; hence the quantity of food available rises quickly. This seems to be an important factor in the movement of Blackbirds into the fields in October and in their rapid post-summer rise in numbers.

Fluctuations in the House Sparrow population

Fig. 7. House Sparrow numbers fluctuated in an annual cycle within the area, although only one pair was known to nest in the area during the study period. The December population was small; it fell slightly from December to March, and then in April and May rose slightly. A further slight depression in June was followed by a tremendous increase in numbers in July. This high level quickly fell, although high numbers were sustained through August and into September. Thereafter numbers decreased quickly, almost back to the December level.

Since an insignificant number of Sparrows bred in the area, the fluctuations in the Sparrow population may be explained almost entirely

on a food-supply basis. The small December population consisted of Sparrows occurring very largely in the outer hedges next to the gardens. The subsequent decrease in numbers was probably caused by movement from the study area to the more immediate vicinity of the nest-sites. During the cold weather of January and February more food was almost certainly available near the houses than in the fields. The gardens bordering the area, however, continued to provide some Sparrows, as shown by the fact that most Sparrows still occurred in the marginal regions. The rise in population numbers in April and May was caused by adult Sparrows coming into the fields for food. The minor depression in June was possibly due to seasonal increase in the abundance of food in the gardens providing an alternative food source. The July-August ripening of the oats and barley in the area provided an abundance of food, either following or coinciding with the peak numbers of Sparrows breeding in the farm buildings and surrounding suburbs.

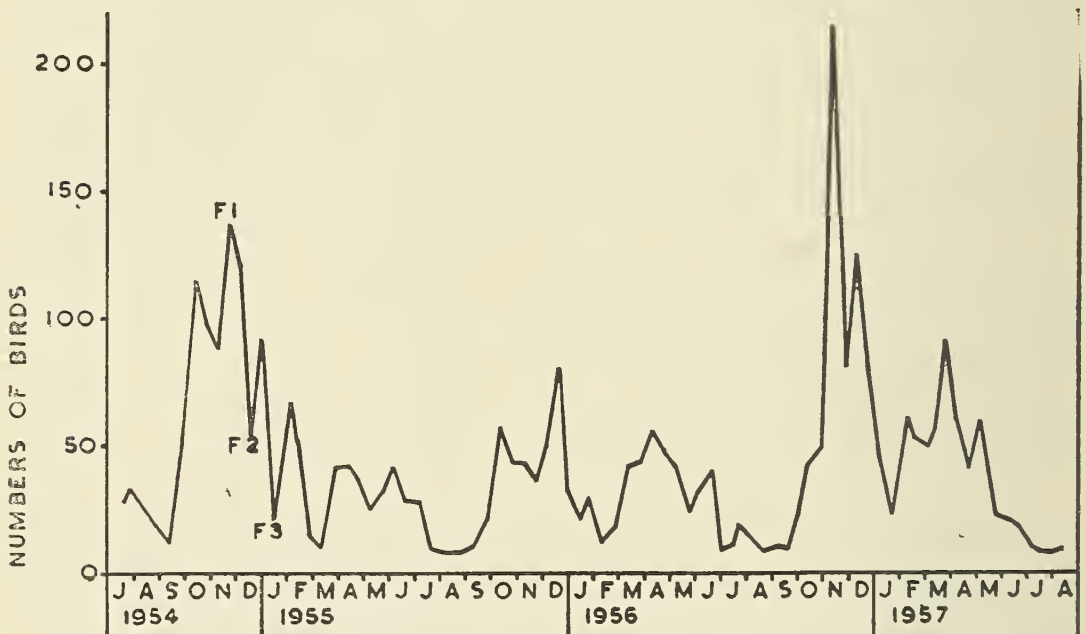


FIG. 7. FLUCTUATIONS IN HOUSE SPARROW NUMBERS

From Table II it will be noticed that oats, either standing or lying on the ground, were an important food source, Sparrow numbers dropping sharply when the oats disappeared, either by cutting or ploughing-in. Compared with oats, barley seemed less attractive to House Sparrows. The cutting of oats caused the Sparrows to turn more to the barley, but even then oats lying on the ground were favoured. With the harvesting of these grain crops the food supply diminished fairly quickly and consequently Sparrow numbers fell sharply. Sparrows were slightly more common in the autumn than in the spring and occurred irregularly throughout the area for feeding purposes.

TABLE II
DISTRIBUTION OF HOUSE SPARROWS, JULY-SEPTEMBER 1954-7

Date	Grassland		Oats ...		Barley	
	Acres	No. of birds	Acres	No. of birds	Acres	No. of birds
18. 7.54	... 46.3	3	27.3	329		
24. 7.54	... 46.3	3	27.3	794		
28. 8.54	... 46.3	16	14.0g (+13.3s)	242		
11. 9.54	... 46.3	250	0.0g (+27.3s)	104		
26. 9.54	... 46.3	5	0.0 (+9.3s) (+18.0p)	352		
10.10.54	... 46.3	6	0.0 (+27.3p)	80		
2. 7.55	... 46.3	31	27.3	0		
16. 7.55	... 46.3	15	27.3	86		
31. 7.55	... 46.3	24	27.3	331		
7. 8.55	... 46.3	75	27.3	442		
27. 8.55	... 46.3	5	0.0 (+27.3s)	1		
10. 9.55	... 46.3	1	0.0 (+27.3p)	8		
25. 9.55	... 40.1	2	0.0 (+33.5p)	32		
1. 7.56	... 26.0	1	27.3	10	20.3	5
14. 7.56	... 26.0	18	27.3	450	20.3	10
22. 7.56	... 26.0	24	27.3	791	20.3	302
17. 8.56	... 26.0	15	20.0g (+7.3s)	241	20.3	25
5. 9.56	... 26.0	1	0.0g (+27.3s)	307	20.3	301
15. 9.56	... 26.0	1	0.0g (+27.3s)	16	20.3	10
30. 9.56	... 26.0	2	0.0 (+27.3s)	13	15.2 (+5.1s)	53
3. 7.57	... 38.4	18			35.2	12
13. 7.57	... 38.4	12			35.2	5
28. 7.57	... 38.4	36			35.2	114
11. 8.57	... 38.4	1			35.2	39

g oats also lying on the ground
s stubble
p plough

Acknowledgements

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Woodlark Population and Habitat

BY C. J. O. HARRISON

Summary

This paper is based on Woodlark population and distribution as revealed by records in the *London Bird Report*, with additional data where this is relevant.

The London area lies near the northern limit of the species distribution and it is suggested that fluctuations in numbers could be correlated with climate. It is shown that a fall in numbers occurs after severe winters and that the re-establishment and increase in the London area is coincident with the amelioration of climate in the Northern Hemisphere. A comparison of the available data with the mean annual temperature from 1880 onwards suggests that the rise and fall of Woodlark population is closely linked with climatic conditions.

An examination of the pattern of occupation in sixty-seven localities suggests that the spread of the species does not occur as a steady occupation of new localities but that a random exploratory dispersal occurs each year when the population is increasing. Records suggest that new areas might be occupied during the first season by unmated cocks, but this was not evident from a statistical examination of data.

The relationship between the distribution of localities and the underlying geological strata was examined, and over three-quarters were found to be on Gravels or Sands. Most of the others were on Chalk, and Clay appeared to be shunned. Drainage, temperature and vegetation are possible reasons for this; the first of these appearing to be the most important.

Many of the sites are on slopes or ridges, but this apparent correlation seems accidental.

Introduction

Anyone attempting to study the distribution or population of a particular species over a wide area is faced with the difficulty of collecting sufficient statistical data. A large amount of information is contained in the many local bird reports but such records tend to be casual and intermittent, and unless the species concerned is large, or conspicuous, or limited to some well-defined habitat, as in the case of waterfowl, the information given is likely to be of limited value.

In the case of the Woodlark (*Lullula arborea*) the only consistent statistics available are those of the *London Bird Report*. In spite of the fact that these represent a relatively small sample I think that they are sufficiently complete to justify serious consideration.

There are a number of reasons for this. The London area has a large number of observers and a limited amount of open space. The Woodlark

is a bird of limited distribution which has gradually spread over the area, and is sufficiently uncommon to be considered worth recording. The conspicuous song-flight of the cock makes it difficult to overlook, and it tends to inhabit areas such as golf-courses and dry-heathland, which are likely to be visited frequently throughout the year.

Even so, it must be remembered that the figures available represent a relatively small sample of population and depend to some extent on chance. The failure of an individual to visit a particular locality in one year might result in an absence of any record, and could be interpreted as an implied absence of birds. It is here that the advantage of data from a district such as the London area is most apparent, since the error caused by failure to visit a locality in the breeding season, while still present, is considerably reduced.

In using this data I have endeavoured to bear in mind its limitations, and to avoid drawing conclusions which do not take into account this potential margin of error.

Population

The woodlark was absent from the London area in the early part of the century. The graph (Fig. 1) shows the number of occupied *territories* since its reappearance in 1924; and is compiled from the *London Bird Reports* for these years, together with additional records from Collenette (1937) and my own notes on the species. Each unit in the white column represents a

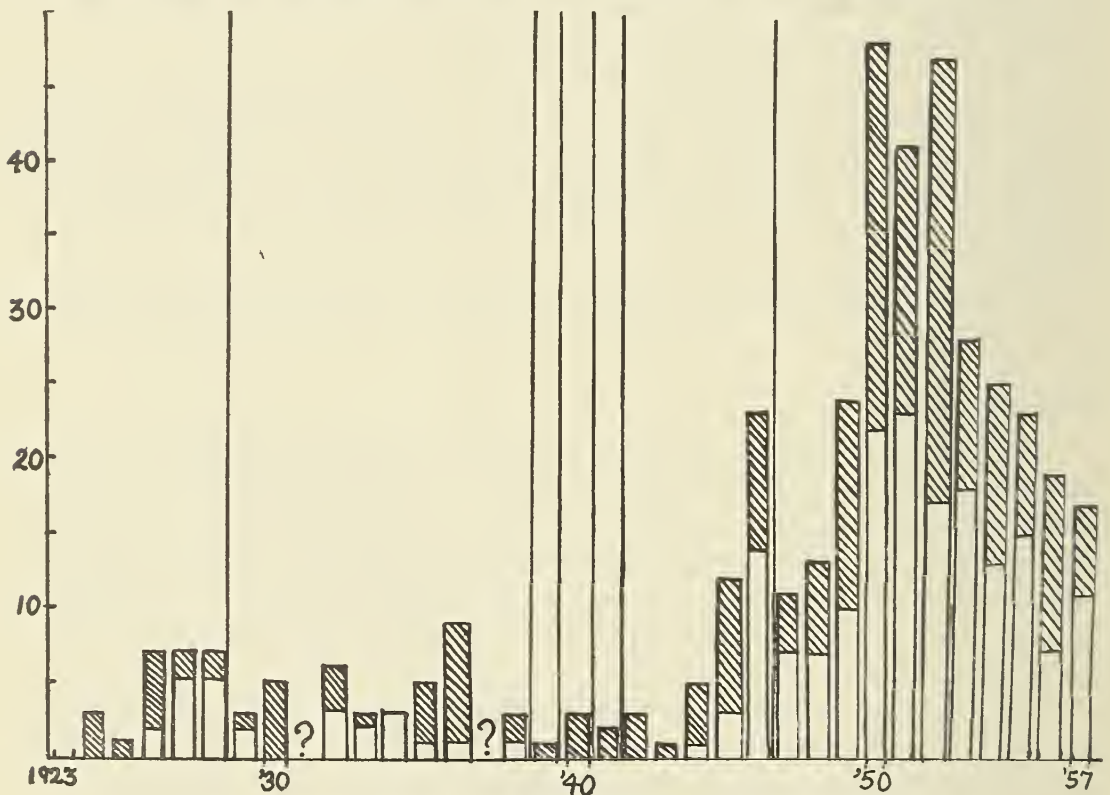


FIG. 1. WOODLARK POPULATION IN THE LONDON AREA

Each white unit represents a pair, each shaded unit a bird present in a locality. Vertical lines indicate severe winters.

pair of birds, while each unit in the shaded column represents a single bird recorded. A large proportion of the latter birds are recorded as singing cocks.

It is apparent from the graph that the total of birds present varies considerably over the years. Before attempting to analyse the reasons for this we should consider the position of the London area in relation to the total distribution of the species. The Woodlark is a mainly European species, extending into North Africa and western Asia, and with the northern limit of its distribution passing through southern Finland and Sweden and Great Britain. The area under consideration is towards the northern limit of the distribution of this species.

If the total population varies at any period it is along such a limit that the variation in numbers is likely to be most noticeable. This boundary does not coincide with any well-marked change in vegetation or topography, and it may be reasonably suspected that it is a climatic factor which determined the northern limit of distribution of this species. It therefore seems best to consider the available data from this point of view.

The Woodlark appears to be reduced in numbers by severe winters and evidence of this is available for the winters of 1928-9 (*Devon Bird Report*, 1931), 1946-7 (Ticehurst and Hartley, 1948), and 1916-7 (Jourdain and Witherby, 1918). In the period under consideration, the winters of 1928-9, 1938-9, 1939-40, 1940-1, 1941-2 and 1946-7 have all been noted as severe by meteorologists (Hawke 1939, Spink 1947) and I have indicated these on the graph by vertical lines.

A meteorologist's definition of a severe winter may of course differ from that of an ornithologist. The primary difficulty which a bird faces in winter is that of finding sufficient food during the available hours of daylight; and the occurrence of a long spell during which the ground is frozen hard or covered with snow, particularly if this happens in the latter part of the winter, when food is likely to be most scarce, is far more likely to reduce the avian population than is the occurrence of exceptionally low temperatures for short periods.

The graph does show a definite fall in numbers in 1929 and 1947 but it is difficult to be certain of the situation during the years 1939-1944. After four bad winters in succession one would expect the Woodlark population to be reduced to the level shown, but at the same time it must be borne in mind that during the war years there were less opportunities for observation and some areas were closed to the public, and one cannot be sure whether more birds might not have been recorded in more favourable circumstances.

Since the Woodlark population appears to be subject to fluctuations which are linked with low temperatures we may suspect that the general rise in numbers is associated with a gradual improvement in climatic conditions.

Over a long period there has been a marked change in the climate of the northern hemisphere, which has tended to become gradually warmer. This temperature change has altered the limits of distribution of many bird species, particularly in countries such as Iceland, Greenland and

Finland. The gradual amelioration of climate was most marked between 1920 and 1950, since when there appears to have been a slight reversal of this trend. In Fig. 2 the mean annual temperature at Kew for the years 1880-1957 is shown and these trends can be seen, although partly obscured by minor variations.

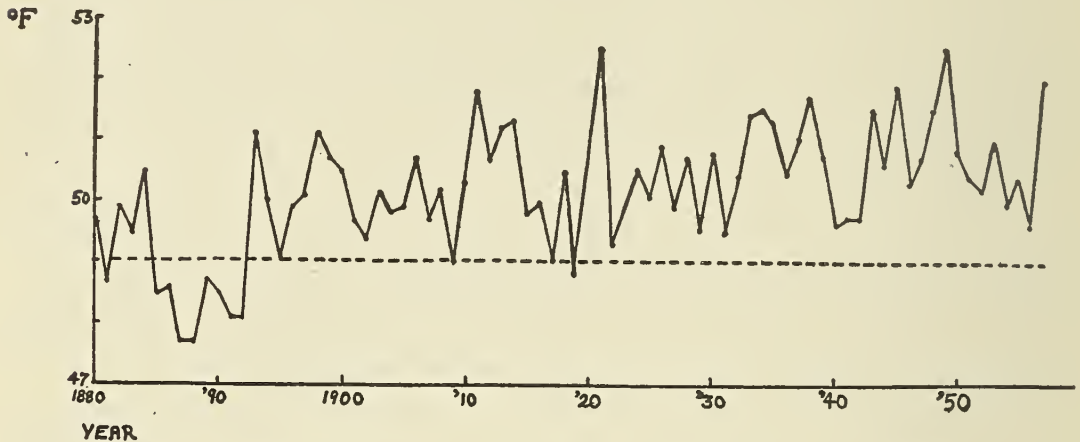


FIG. 2. MEAN ANNUAL TEMPERATURE AT KEW, 1880-1957

It seems significant that the re-colonization and increase shown by the Woodlark, as recorded here, took place between 1923 and the early 1950's, during the later years of which period it reached a peak, and since when there has been a gradual decline. These changes in population were not confined to the London area but are commented on in almost every local report in which this species is included.

A comparison between the two graphs reveals that many of the minor rises and falls coincide on both but in view of the small population sample involved it seems unwise to compare in too great detail.

There is plenty of evidence concerning the re-appearance of this species in the London area but it is difficult to determine when it disappeared. Bucknill (1900) quotes several nesting localities in the part of the area which extends into Surrey. He mentions eggs being found prior to 1881, and then more recent records (i.e. nearer to 1900). This suggests that they may have been scarce or absent in the series of cold years shown on the graph between 1884 and 1894. Walpole Bond (1938) refers to a marked re-establishment in Sussex, and breeding on south-west Surrey commons, as dating from 1919. Smith (1938) has some references to the history of the species in Staffordshire where it was abundant in some areas in 1836, rare by 1863 and subsequently very scarce. A nest was recorded in 1883 and the next record for the species is in 1924, suggesting an absence between those dates.

The overall picture suggested by this data is of a decline, and in some cases, a disappearance, by 1884, with a slight increase just before 1900, followed by another decline or disappearance until the re-establishment about 1920 and after. If this is compared with the temperature graph it will be seen that there was a fall in temperature and a series of cold years

between 1885 and 1895, followed by a warmer period until 1909 when there was a slight drop, then a marked rise, with a drop again in 1917 and 1919 after which a more steady rise is apparent.

There does appear to be evidence here that the recorded Woodlark population is linked with the general climatic conditions over a period of some seventy-five years. It must be remembered that the temperatures quoted here are mean annual temperatures. It may be that the average temperature at a particular time of year is a critical one for this species, but there is insufficient evidence at present to determine this.

Occupation of Localities

In order to use the data regarding the various breeding localities and the time that they have been occupied by Woodlarks, I have had to assume that all the records are equally valid. Since the absence of a record in any particular year may indicate only that the area was not visited by an observer, and a record of non-breeding birds may mean that no effort was made to establish whether breeding was taking place, some margin of error must exist. This error will be greatest where records for any area are fewest; and, where statistics have been used, the smaller the number of sites involved, the greater is the potential inaccuracy of the results.

Fig. 3 shows the years in which birds have been present or breeding in the sixty-seven recorded localities. The localities are given as place-names, and represent areas of indeterminate size which may contain suitable terrain for more than one territory, six territories being the largest number recorded from any one locality.

The Woodlark appears to need open ground or short turf in its territory (Harrison and Forster, 1959), and Venables (1937) has shown that on the Surrey Greensand heaths its distribution is linked with the occurrence of open spaces made by heath fires. Under natural conditions this type of

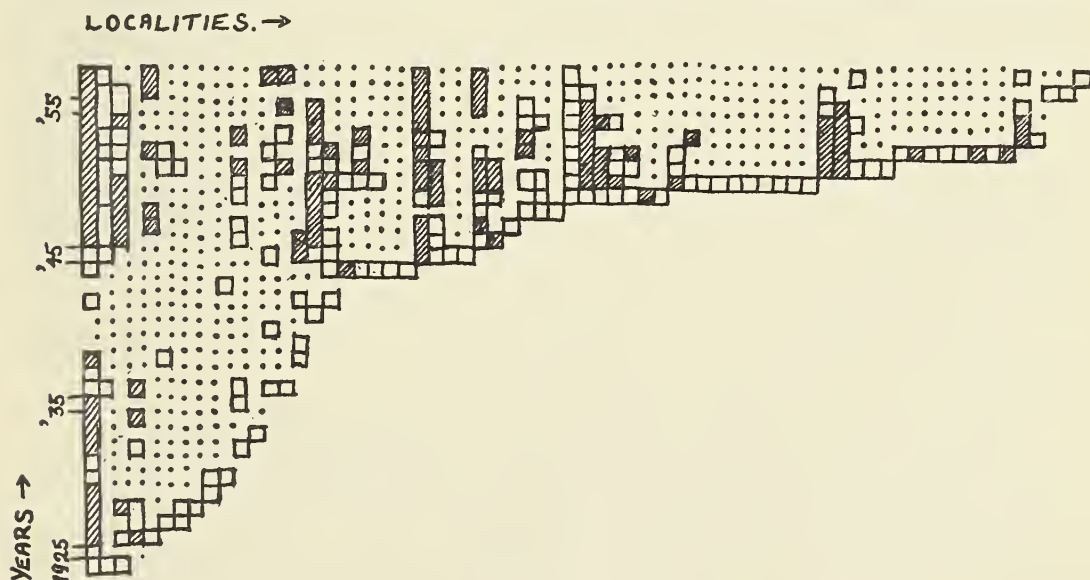


FIG. 3. RECORDED LOCALITIES

A white square indicates birds present, shaded squares indicate proved breeding pairs, dots indicate absence of positive report in the Society's records.

habitat occurs only as a temporary phase in the development of vegetative cover. An ideal pattern of occupation of territory would then show each area being occupied for a few years while this vegetative phase occurred, and then deserted, and perhaps reoccupied later for a similar period if some destruction caused the cycle of plant colonization to begin again.

In the area under consideration, Man has interfered with natural plant succession. His tendency to maintain vegetation at a particular stage by repeated cutting or cultivation makes some areas suitable for occupation by birds for many years, while in other cases the cutting or clearing of a large area of tall vegetation may make an area suitable for a single summer, but if the plants are of a type that quickly reassert themselves and the area becomes overgrown, then it may be unsuitable by the following year.

Factors such as this help to create the type of pattern shown here, with a haphazard mixture of localities occupied for long periods and for single years.

It appears that the spread of this species, particularly in recent years, has not been in the form of a gradual occupation of new nesting localities, but instead there is in each year an apparently random dispersal into new localities, only some of which are visited again in subsequent years when further new localities are occupied. Of thirty-nine localities occupied for just one year there were only five in which nests were recorded, and this does suggest that these were exploratory territories rather than ones which were only suitable for breeding purposes during that particular year, when one might have expected more definite breeding records.

The very specific requirements which appear to limit the potential territories of this species (Harrison and Forster, 1959) might be responsible for this tendency for birds to disperse widely and occupy slightly less suitable areas at a time when population pressure was great, but this would not explain why so many of these localities are apparently not visited again in subsequent years when population pressure is still high.

The references to singing cocks in the records for newly occupied localities are sufficiently numerous to suggest that such areas might be occupied in the first year by unmated males, as has been recorded for some passerine species ; but it must be remembered that, in the case of the Woodlark, the singing cock is conspicuous but the hen is hard to find without a deliberate search and may easily pass unrecorded.

An examination of the records reveals that, of twenty-three localities occupied for three or more years consecutively—

Breeding was recorded in first year of occupation in ten cases.

Breeding was recorded in second year of occupation in six cases.

Breeding was recorded in third year of occupation in four cases.

No breeding was recorded in three cases.

In three of the first ten localities, birds had been recorded two seasons prior to the one in which breeding occurred, but there is certainly no good evidence for a pattern of occupation of localities in the season prior to that in which breeding first takes place.

Distribution of Woodlark Territories

The apparent importance of the underlying geological strata in determining the distribution of Woodlark territories has been suggested in a previous paper (Harrison and Forster, 1959). The frequent references to sandy or well-drained soils in the literature on Woodlarks suggests that this might be a critical factor, and it was possible to examine the sixty-seven recorded localities with a view to gaining further evidence. The Geological Survey, 6" to 1 mile, drift maps were examined in order to determine the underlying formations in each named area. There was some difficulty in doing so since the name of any locality merely indicates the approximate area in which the birds were recorded and may apply to sites covering more than one type of geological formation. It has therefore been necessary to record some of the sites as having alternative possible underlying strata.

The area concerned is mainly on London Clay, much of which is covered by superficial drift deposits of fluvial sands and gravels of the glacial or interglacial periods. On the north-west and south sides there is Chalk, the higher areas of which are capped with Clay-with-Flints, and on the southern border there are the clay and sandstone of the Gault and Greensands.

To examine the distribution in more detail, the occurrences have been subdivided into six categories, as follows :—

- (a) Single, non-breeding record.
- (b) Single, breeding record.
- (c) Intermittent, non-breeding records.
- (d) Intermittent, breeding records.
- (e) Regular non-breeding records (after first colonization).
- (f) Regular breeding records (after first colonization).

	<i>Total</i>	(a)	(b)	(c)	(d)	(e)	(f)
Gravels and sands	49	23	4	6	8	1	7
Chalk or Gravels	3	2	—	1	—	—	—
Chalk	4	1	—	1	2	—	—
Chalk or Clay-with-Flints ...	4	1	—	—	3	—	—
Clay-with-Flints or Pliocene...	2	—	—	—	2	—	—
Gravels or Clay	4	3	—	—	—	—	1
Clay	1	1	—	—	—	—	—
Totals	67	31	4	8	15	1	8

In considering the categories, the limitations and the nature of the records on which they are based must be borne in mind. The most obvious and striking fact revealed here is that the majority of such occurrences are on Sands and Gravels. This total may be even higher than it appears at first, since of the eighteen other occupied localities, seven may be on Sands or Gravels. The one locality in the latter total in which regular breeding occurs is one which contains several potential territories, some of which are on gravels on higher ground while others extend onto areas which are

shown on the Geological Survey maps as clay but which contain, in the area concerned, a high proportion of gravels which are either residual or washed down from higher ground, and which give rise to a drier gravelly soil and vegetation typical of this rather than of a true clay soil.

Some of the localities described as Clay-with-Flint may have soils more similar to those of the Sands and Gravels. There are deposits of Pliocene sands and gravels associated with the Clay-with-Flints that caps the Chalk of the North Downs, and in the two localities where this is indicated in the above table, the soil and vegetation tend to be of a dry, acid heathland type.

It is only the few territories that are recorded as definitely on Chalk that prevent the suggestion that the Woodlark is associated with acid soils. Clay-with-Flints is often leached of its lime content and may support a flora more typical of acid soils. An article by Dallas (1927) on the nesting of Woodlarks at Box Hill, which one might well regard as a locality on Chalk, is illustrated by photographs which show nests in Ling (*Calluna vulgaris*) and Bracken (*Pteridium aquilinum*), both of which are lime-hating plants.

Since, however, both Chalk and Sands and Gravels are preferred to Clays it seems that these must provide some special factors, soil type and vegetation are obvious ones, which influence the bird when a territory is selected.

Compared with Clay the others will tend to give a dry, well-drained soil. This is probably an important factor for a bird that spends most of its time on the ground in areas with sparse vegetation. A possible indication of the importance of drainage is the absence of this species from the low-lying and comparatively damp Taplow Terraces of the Wandle Valley.

There might be perceptible temperature differences in the soils. Light sandy soils where the air can circulate easily, tend to become warm earlier in the year than do clays (they are the so-called "early" soils of the gardener and the farmer), and the birds might be able to notice this, Venables (1937) suggested that the Woodlark, when selecting a territory, avoided frost hollows.

It is difficult to be certain what part vegetation plays here. The apparent need for open ground or short turf has already been mentioned and, while this is probably more frequent on Chalk, Sands, or Gravels, it is also found on Clay, particularly in regions like the London area, where man tends to modify the natural vegetation, often to the extent of wearing it away by the constant passage of human feet. It seems likely that where such open ground does exist the type of soil may then become an important factor.

The great majority of the sites selected by the birds in the London area are on slopes or ridges and it could be suggested that this is a factor affecting territory selection. Such sites will be well-drained and bare ground or sparse turf is frequently found at such places where the soil tends to be most shallow. But one must take into account the fact that in this area the type of land most favoured by the birds occurs either as residual patches or as escarpments and is therefore more likely to be on a slope than to be level. In areas such as the Brecklands of East Anglia, which have

always been strongholds of the Woodlark, the land tends to be flat, which suggests that the presence or absence of a gradient is unimportant and that the apparent correlation between slope and territory is an accidental one.

The Human Factor

It can be argued that the Woodlarks in the London Area are likely to be more affected by human activity, both favourable and unfavourable, than those elsewhere, and such activities might affect both the population and distribution of the species.

I have already mentioned how man tends to maintain a particular type of vegetation which may create a habitat suitable for a long period of years. Since most of the Woodlark territories are on public or private open spaces where striking changes have not occurred, I consider that the overall change in population due to destruction of habitat to be relatively slight. The increasing spread of buildings in the London Area, which may have rendered some localities unsuitable, should have reduced the number of Woodlarks breeding near London.

Since the steadily increasing population of London must lead to an increasing disturbance of open spaces by human beings, and since the type of area most favoured by the Woodlark in the breeding season tends to be the one that is also most favoured by people for recreation, one would expect the Woodlark to decrease in such areas ; whereas it has, at least until recent years, shown a steady increase.

The Woodlark appears to be very tolerant of disturbance, and capable of living and nesting successfully in areas where people are constantly passing to and fro. It contrives to utilize successfully such foci of human activity as cricket tables, golf courses and football pitches.

A more direct threat to the birds arises from egg-collecting. I think that this is a relatively constant factor. The Woodlark suffers from the very variable colouration of its eggs, which would tend to encourage the collection of numerous clutches and there may have been some amelioration since the 1944 Protection Act. But I think that over the last thirty or forty years such activity has been largely the work of boys or adolescent youths, who are still ignorant of the Act and in any case do not discriminate between the eggs of this species and the unprotected eggs of the Skylark.

To summarize, the large human population of the London Area should, in theory, have resulted in a steady decrease of this species. The fact that it has in fact increased suggests that the human factor is a relatively minor one.

Acknowledgements

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The Birds of Regent's Park and Primrose Hill, 1959

By D. I. M. WALLACE

Summary

1. The bird-life of Regent's Park and Primrose Hill was intensively studied during 1959, with the aim of recording the seasonal fluctuations in population and assessing the success of breeding species.

2. At least 85 species were seen during the year, including several species rare in Inner London and notably a Wild Swan, Ringed Plover, Snipe, Woodlark and Tree Sparrow. Of 29 species breeding or attempting to breed, the most notable was the Bullfinch, which nested for the first time in Inner London and successfully reared young.

3. Comparison with older records for Regent's Park and elsewhere in Central London shows that the area now supports the greatest variety of breeding species in the metropolis, though it is also clear that some species meet with uncertain success and may from time to time withdraw. The winter population has also become more varied.

4. Special attention is given to the migrant population which though constantly changing from day to day appears to be basically similar from year to year. Evidence is shown to support the conclusion that on several occasions in the spring and autumn of 1959, migrant arrivals in the park were simultaneous with coastal falls.

5. Full details of the occurrences of each species in 1959 are given in a systematic list and the minimum size of the breeding population is tabulated in an appendix.

Introduction

The birds of Inner London have been as closely studied as any others in Britain and their general distribution in the metropolis is already well known. Several more parochial studies based mainly on regular population censuses, have been presented previously in the *L.B.R.*, but no intensive work has ever been published for a particular area throughout the whole of one year.

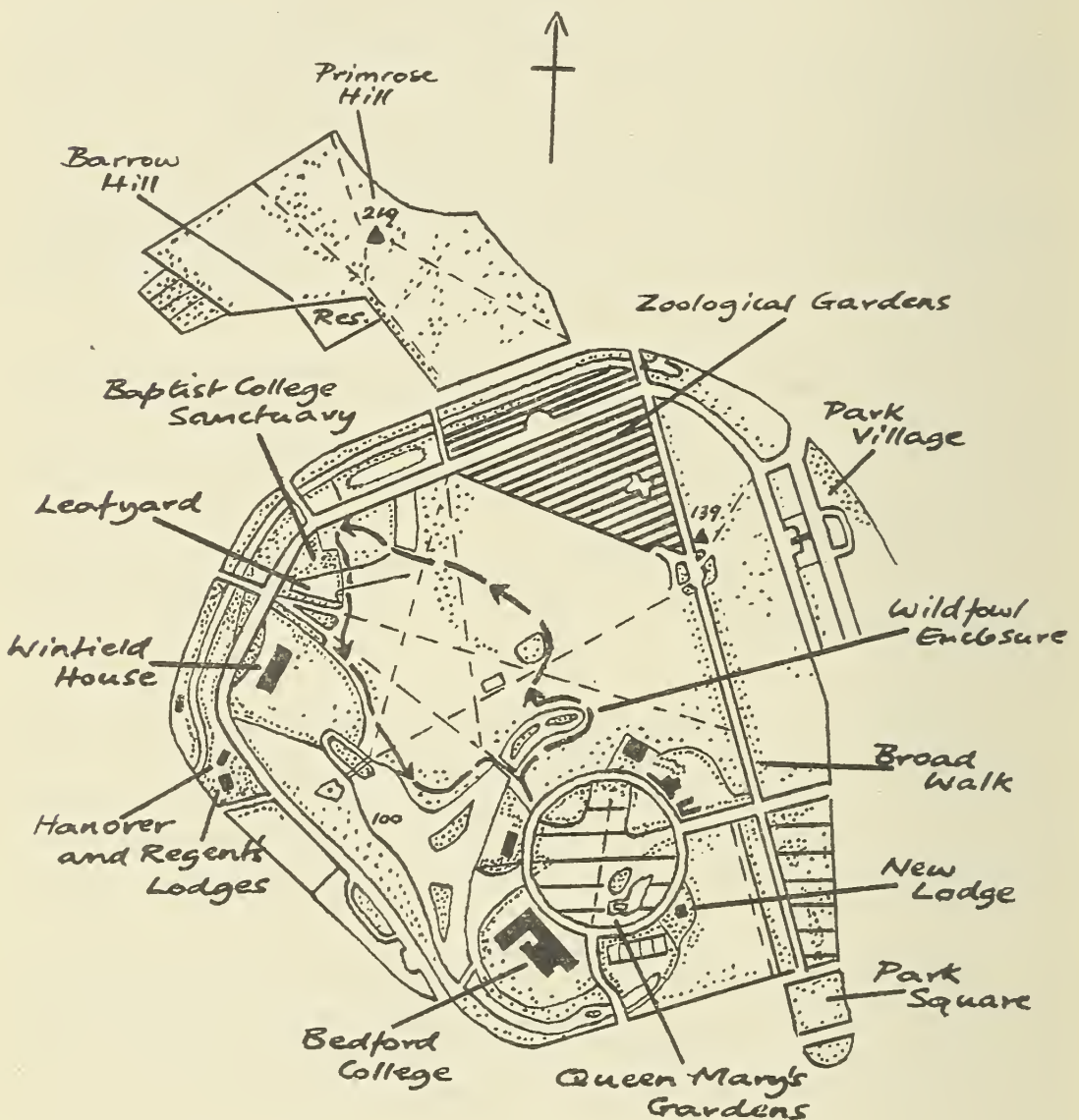
This paper sets out the results of almost daily observations in Regent's Park and on Primrose Hill in 1959 and summarizes the most detailed study of an Inner London habitat carried out to date. Space has been allowed for a full description of the area and the method of study employed in the hope that the observations will be repeated in the future.

Description of Study area

Regent's Park is the largest Royal Park in Inner London, covering 487 acres. Its highest point, immediately to the south-east of the Zoological Gardens, reaches 139 feet above sea level while the level of the lake is

approximately 100 feet. The park possesses the widest range of habitats in Inner London and is fortunately placed alongside several areas of residential property, which extend to the north as far as Hampstead Heath and whose gardens undoubtedly provide an important landway for birds in transit between the open spaces. It contains two artificial waters, a boating lake of 22 acres with six wooded islands and a small ornamental pond in Queen Mary's Rose Gardens, the most formally cultivated section of the park. The main habitats are indicated on the map below.

The particular attention of future observers is drawn to the officially designated bird sanctuaries in the old grounds of Baptist College and on the north-east arm of the lake, the gardens and grounds of Hanover and



REGENT'S PARK AND PRIMROSE HILL STUDY AREA, 1959

Dots indicate the location of trees, and where close together, thick woodland and undergrowth : solid black areas represent main buildings ; fine dashes show the main pathways across the park and arrowed dashes the migrant census route.

Regent's Lodges and Winfield House, the leaf-yard and its nearby shrubberies, Queen Mary's Rose Gardens and the formal gardens at the south end of the Broad Walk. All these areas are important refuges for both resident and migrant birds, while the Zoological Gardens, 34 acres, also provide sanctuary and abundant food for certain resident species during the winter months. The Regent's Canal runs through a heavily wooded and partly enclosed defile along most of the northern and north-western edges of the park. In addition, the park is almost completely surrounded by terraced houses with gardens, while Park Square, the public gardens of St. John's Wood Church and the dry and now wooded channel of the eastern end of Regent's Canal (Park Village) all abut at one point to the perimeter.

One important sanctuary no longer exists, the overgrown grounds and ruins of St. Katharine's Hospital, which was cleared in 1953. Primrose Hill, one of the few natural outcrops in central London lies immediately to the north of the park, covering 87 acres and rising to a height of 219 feet. The main habitats of this area are shown above, but attention is particularly drawn to the grounds of the reservoir on Barrow Hill, the untended gardens adjoining the north-western edge and the hawthorn clump below the summit itself. Viewed from below the hill appears insignificant; climb to the top and London is at your feet, with Regent's Park a green bowl below you backed by the grey buildings of the city. To the north the woods of Hampstead Heath are clearly visible, while to the east and south-west the main lies of the river valleys can be discerned. Its shape and position make it an ideal post for the observation of diurnal migration, roosting flights and other movements.

The area of Regent's Park and Primrose Hill is as a whole probably the most natural of the artificial habitats in Inner London, excepting the woods of Holland Park, and it should not be regarded as one of a series of artificial oases in a city desert.

Method and aim of Study

My aim of a full year's coverage of the entire area was prompted by the result of a series of exciting migration watches made in previous years, notably in the spring of 1951 and 1952 and the autumn of 1951 and 1958. I originally intended to concentrate entirely on migrants and other seasonal visitors. However, within a day or two of starting, I became interested in the fluctuations of the resident population and with the basis of a supposedly full census of the winter population made on January 3rd, I went ahead with a total study with eyes open for anything and everything. It is practically impossible to cover the park and Primrose Hill in one day. The method therefore adopted to fix the distribution of birds in the area was one based on the accumulation of information which could then be analysed in such a way as to bring out the required result, such as the location to the most favoured migrant habitats or the assessment of breeding populations. Quite simply every time I entered any section of the area, I was equipped with a sketch map on which was plotted the exact position of all but the commonest species. Special attention was directed to song-posts, nest

sites, feeding areas and flight-lines, all easily indicated by symbols. The maps were summarized at regular intervals to allow for the internal shifting of resident birds, which at first proved confusing. The final analysis was carried out in January, 1960.

Throughout the year certain areas, more productive of birds than others, were favoured but all the park was effectively covered by the middle of the breeding season. Certain areas, for example the north-eastern corner, were neglected during the migration seasons for the simple reason that a standard census of migrants could be more easily taken from three areas in the western half of the park (the sanctuaries and the open grass pitches). These had to be watched regularly. The exact route taken for the migrant census is also indicated on the map. During the spring I began by concentrating on early morning visits, during the time of least disturbance, but soon realized that a morning and evening visit on any day usually showed a change in migrant population. Therefore, until the loss of daylight made the latter impossible, two visits became the rule.

The position of my home, a top flat in Marylebone High Street, W.1, proved ideal for watching diurnal migration and other bird movements to the south of the park.

Frequency of Observation

One or two visits lasting from half-an-hour to three hours were made on 175 days during the year ; shorter visits, such as a ten-minute watch at a favoured locality were made on many other occasions. In total with the inclusion of the observations of bird-watchers other than myself and the Park Superintendent, the area was at least partially covered on 332 days in 1960.

The Year

JANUARY TO MID-MARCH

The weather on January 3rd was clear and crisp, ideal for a winter census. A supposedly full count was made and over 4,500 birds of 28 species were found in $2\frac{3}{4}$ hours. The commonest were House Sparrow (1060) and Black-headed Gull (1035), followed by Mallard (724), Starling (542), London Pigeon (401), Blackbird (268) and Wood Pigeon (262). All other species numbered less than one hundred and finches and tits were remarkably scarce, seven birds of four species only being seen. That more tits were in fact present was shown by the results of a special count on January 10th, when 15 birds of two species were seen. The rarity of finches was on the other hand confirmed and all of them were based on the zoo until early February. By this time several re-estimates of the numbers of scarcer residents had been made and it was realized that a few hours would never be enough for an accurate census of the area. Black-headed Gulls numbered 1205 on January 31st and certain other species came into the park at this time, including a few Redwing which stayed for nearly three weeks in February. The populations of Mallard, Black-headed Gull, Moorhen and Coot began to decrease, but conversely it was the peak period for diving ducks, the larger gulls and Stock Dove (up to 19 coming in to

roost at dusk). There was some evidence of a build up in the number of passerines that were to breed in the park, and on March 1st the series of song-post and nest locality maps was started. With their use more and more of the scarcer residents, such as Dunnock and Robin, came to light.

LATE MARCH TO MAY

The number of gulls quickly fell to a minimum in the last week of March, but more passerines were entering the park, notably Great Tit and Chaffinch, and territorial competition became fierce. Passage of diurnal migrants, notably Meadow Pipits, was recorded on March 24th and 25th. The Redwings finally left after a brief reappearance and with them some Song Thrushes. A pair of Bullfinches was first noted on March 27th, a good omen for the breeding season, and several thrushes were collecting food on this date. On March 28th the first summer visitor appeared, a Willow Warbler, and early even for the whole of Britain. By this date no Gulls were present late in the day, indicating that all occurring were on through passage. Mallard had become commoner, but numbers of Pochard and Tufted Duck were down. Coot were incubating on March 30th. An analysis of maps made on April 1st showed the locations of 63 territories belonging to five species, Dunnock, Robin, Chaffinch, Greenfinch and Wren, and it became obvious that a considerable influx of breeding birds had occurred in the previous six weeks. A special count of Blackbirds in the park alone on April 3rd showed 242 (152 cocks) to be present ; the first pair of Goldfinches came in. Nocturnal influxes of migrants started on April 5th. Between then and May 9th, a period of 34 days, a total of seven species of nocturnal migrants passed through the park. Overall it was a very sparse passage, the number of birds observed on any one day never exceeding five. The most interesting period was from May 5th to 9th, when Tree Pipit, Blackcap and Sedge Warbler were seen. During late spring, passage was exclusively of diurnal migrants, with record of three species from April 27th to May 31st, a period of 35 days. The only significant movement was noted on May 6th when the first Swifts appeared with several Swallows. Meanwhile the breeding population continued to swell, the first of the park's Spotted Flycatcher arriving as late as May 31st.

JUNE AND JULY

More Spotted Flycatchers came in in the first week of June ; later in the month several interesting mid-summer movements were observed, notably of Lapwings. The lake filled up with ducklings of Mallard, Tufted Duck and Pochard, all wild, and the many pinioned varieties. The pair of Pied Wagtails brought off a single youngster on June 14th. A large movement of Swifts was noted on June 21st and on the next day, the only summer record of Heron was obtained. Fledgling Goldfinches appeared on June 29th ; early July provided the most regular occurrences of Kestrel for the entire year and several other unusual records, for instance two Sand Martins on the 6th. Evidence of nocturnal movement and diurnal passage came to hand on several days and a family party of Reed Warblers was seen on the 30th. Gulls were on the move by the end of the month.

No census was made of the total breeding population of the area, but sample counts suggested that up to 3,000 birds were present during these two months.

AUGUST AND SEPTEMBER

Morning counts of Gulls began in late July showed that pronounced passage of all the common species except Great Blackback commenced on August 1st. A considerable fall of *phylloscopi* occurred on August 3rd, following a night of south-west wind, and from then until the end of September, the influxes of migrants vied for attention with the post-breeding population of resident birds and summer visitors. Full details can be found in the systematic list, but special mention must be made of the movements recorded on August 22nd which coincided exactly with arrivals at Dungeness, Sandwich Bay and Bradwell observatories, and on September 22nd and 23rd, when the arrivals included Pied Flycatchers. Several other influxes were simultaneous with coastal movements. At least five species of wader were seen and a passage of tits and Goldcrests was obvious late in September. Another interesting bird was the first Tree Sparrow of the autumn on September 23rd. Over 40 species of migrants were recorded in these two months, the daily counts suggesting that up to a thousand individuals may have used Regent's Park as a staging post on their respective migration routes. Up to 1,000 Wood Pigeons and House Sparrows were feeding on the open grass in September and autumn population checks showed that at least five Goldfinches had fledged successfully.

OCTOBER AND NOVEMBER

Nocturnal arrivals and departures of summer visitors continued until October 16th but as indicated by slight movements in late September, the diurnal movements were soon to take pride of place. They cannot be discussed fully here, but the species passing included three Corvids, Woodlark, all the common Thrushes, seven Finches, Yellow Hammer, and both Sparrows. Most of the large movements in late October and early November were associated with N.W. head winds as noted by Power as long ago as 1874, but earlier movements were apparently independent of such an airstream. During October, a great many breeding birds and their offspring left the park, as the food supply decreased after the long hot summer. It was clear that the area had been well gleaned. November 4th was made notable by the occurrence of a Wild Swan. Southward movements of the large gulls including Great Blackbacks were also prominent at this time while certain resident species such as Robin and Wren were singing strongly again, a typical London contrast.

DECEMBER

Diurnal movements on a reduced scale continued well into the month, with Redpolls and Linnets the most interesting species involved. As full a census as possible was made on December 12th and 13th, in mild weather, and the counts of the scarcer residents showed not only the increases in their populations, but also the gain in my own skill as observer of the entire area.

Over 3,700 birds of 29 species were found to be present. The commonest were House Sparrow (c.1,000) and Black-headed Gull (725), followed by Mallard (585), Wood Pigeon (410), Blackbird (396), London Pigeon (200) and Starling (115). The last was an unprecedentedly low diurnal count for the species and it should be mentioned that on both dates c.6,000 Starlings paid brief pre-roosting visits to the park. By December 20th, the total population had risen by a further 530 individuals and on Christmas Day, the last on which sample counts were made, it was probably over 4,300, a similar figure to that obtained on January 3rd.

Comparison with older records

Apart from the full history of Inner London occurrences available in the systematic list of Birds of the London Area since 1900, and the *L.B.R.* from 1955 to 1958, which shows up the unusual records, noted under species in the systematic list on page 96, there is only one paper that can support the more general discussion necessary to show any real change in population or distribution. This is "The Birds of Kensington Gardens and Regent's Park", 1948, in which the author, Stanley Cramp, describes the results of a weekly survey carried out between October, 1946, and September, 1947. There are important differences in the way in which the area was covered. Cramp did not include certain areas closed to the public (the grounds of Winfield House, Hanover and Regent's Lodges, Park Square, Park Village East, and most importantly, the Baptist College ruins) nor the Zoological Gardens and Primrose Hill. My survey took in all these areas. Furthermore the effects of war damage and dilapidation had long been made good by 1959 and several new enclosures including the fenced sanctuary constructed on the Baptist College ruins, had been created adding markedly to the attraction of the area to birds. Thus some of the changes outlined below and which may appear dramatic and unprecedented had in reality long been suspected and others already noted, for example the breeding of the two species of diving duck.

Cramp classified the species observed in 1947 under the following period headings, "Present all year", "Present all year but less common in winter", "Summer Residents", "Resident or frequent in winter" and "Passage Migrants". It is not possible to summarize the almost daily records of 1959 in these classes, and the striking differences are shown more clearly by an analysis such as follows.

SUMMER POPULATION (SPECIES PRESENT)

Species breeding, attempting to breed or summering in 1947 and 1959.

	1947	1959	<i>Years between studies in which breeding was recorded of species not breeding in 1947</i>
A. Bred, rearing young	Mallard	Mallard Tufted Duck Pochard	1954, 7-8 1953-8

		1947	1959	<i>Years between studies in which breeding was recorded of species not breeding in 1947</i>
	Moorhen	Moorhen	Moorhen	
			Stock Dove	1952, 5-8
	Wood Pigeon	Wood Pigeon	Wood Pigeon	
			Tawny Owl	1958
			Carrion Crow	1952-8
			Jay	1950-8
	Great Tit	Great Tit	Great Tit	
	Blue Tit	Blue Tit	Blue Tit	
			Wren	1952-8
	Mistle Thrush	Mistle Thrush	Mistle Thrush	
	Song Thrush	Song Thrush	Song Thrush	
	Blackbird	Blackbird	Blackbird	
	Robin	Robin	Robin	
	Spotted Flycatcher	Spotted Flycatcher	Spotted Flycatcher	
			Hedge Accentor	1952-8
			Pied Wagtail	1957
	Starling	Starling	Starling	
	Greenfinch	Greenfinch	Greenfinch	
			Goldfinch	1952-8
			Bullfinch*	NONE (first for Inner London)
	Chaffinch	Chaffinch	Chaffinch	
	House Sparrow (14)	House Sparrow (25)	House Sparrow (25)	
B.	May have bred successfully	Tawny Owl Carrion Crow Wren Hedge Accentor (4)	ALL BREEDING SUCCESSFULLY (See A).	
			Swift*	NONE
			Great Spotted Woodpecker* (2)	1952
C.	Attempted to breed	Mute Swan (1)	No ATTEMPT	1949-58
			Coot	1952-7
			Willow Warbler* (2)	1954-5
D.	Number of species breeding or attempting to do so.	19	29	
E.	Present in summer, but non-breeding	Tufted Duck Swift Pied Wagtail (3)	ALL BREEDING OR ATTEMPTING TO DO SO. (See A and B).	
			Mute Swan	1949-58
			Kestrel (2)	NONE
F.	Number of species present in summer.	22	31	

NOTES :

1. Breeding species found only in areas *not* covered by Cramp in 1947 are marked with an asterisk.

2. In order to complete this twelve year summary of the summer population of Regent's Park and Primrose Hill, it should be noted that the Cole Tit may have bred in 1955 and that a pair of Whitethroats reared young in 1953. Feral Pigeons also breed regularly.
3. The size of the 1959 breeding population of each species is given in detail in the systematic list and summarized in an appendix on page 107.

The table above shows quite clearly that by 1959 the area has gained overall nine summering species and that the number breeding or attempting to breed has risen by ten. Several of these, for example Tufted Duck, Pochard, Stock Dove, Jay and Goldfinch appear safely established. Coots, were their numbers not controlled, would probably re-colonize the lake (and have done so in 1960). The failure of the nesting attempt of Willow Warblers in 1959, caused only by continual molestation by bird-nesting children, also underlines more the menace of human disturbance than the limiting factor of suitable environment in any breeding attempt by a species with ecologically rigid nest site requirements. Nevertheless the July occurrences of adult and juvenile Whitethroats point to the possibility of another Inner London breeding record for this species. The untended gardens that remain in St. John's Wood are probably still more attractive to this species than the restricted cover in the Baptist College Sanctuary, although as noted above both Whitethroats and Willow Warblers managed to breed successfully in this area in the year between the studies under comparison here. The only definite loss in 1959 was Mute Swan, the nearest breeding pair to the area being at the Warwick Crescent canal junction. This is not serious, but the position of the Great Spotted Woodpecker is obviously precarious though the March records for this species suggest that the recruitment of breeding birds from outside the park confines is not unlikely.

The increase in the variety of breeding species that is manifest in the above comparison is also the most encouraging trend in the total breeding population inhabiting the five innermost Royal Parks. An analysis of the annual reports of the Committee on Bird Sanctuaries in the Royal Parks (England and Wales), 1948 to 1959, shows the following changes to have taken place.

BREEDING POPULATION TRENDS IN INNER LONDON

Average number of breeding species recorded in the five central Royal Parks from 1948 to 1959.

	<i>1948 to 1953</i>	<i>1954 to 1959</i>	<i>Change</i>
Hyde Park	22 (21/24)	19 (18/22)	-3
Kensington Gardens			
St. James's Park	14 (11/17)	16 (14/17)*	+2
Green Park			
Regent's Park	18 (15/23)	*1959 not included	
Primrose Hill		25 (23/26)	+7

The figures in parenthesis after the average indicate the variations in the number of breeding species in the two six-year periods, the lowest numbers recorded in each being placed first. The changes in these clearly

support the overall trends shown by the averages. Comparison of the highest numbers is invalid because, with the basically inhospitable character of most Inner London habitats, the records of their colonization by certain species with limiting factors inherent in their own breeding behaviour must inevitably be of varying success,* as in the case of the Willow Warbler mentioned previously (nest site) and Stock Dove (feeding requirements).

To sum up, it is clear that Inner London has a fluctuating breeding population, the components of which change continually with the attempts at establishment by borderline species, such as those mentioned above and which are usually represented by odd pairs only. The frequent fluctuations in Regent's Park are evident in the table at the beginning of this section.

SIZE OF BREEDING POPULATION

Cramp remarked in 1948 that although there was a surprising variety of breeding birds in view of the specialized nature of the habitat, the numerical strength of the avian population was not as great as this might suggest. He was unable to carry out such a detailed breeding census as in the 1959 survey, which by its frequency of observations and fuller coverage of the area must be more complete. Nevertheless a comparison is possible, as follows :

TOTAL SIZE OF BREEDING POPULATION

	<i>Regent's Park Restricted area of 410 acres. Cramp 1947</i>		<i>Regent's Park and Primrose Hill, including the Zoo and certain areas abutting to the park, totalling c.600 acres, Wallace 1959</i>	
	<i>No. of breeding pairs</i>	<i>Birds per 10 acres</i>	<i>No. of breeding pairs</i>	<i>Birds per 10 acres</i>
1947 (19 species) ...	130/180	6/9	unknown	unknown
1959 (18 species as in 1947, not Mute Swan) (7 new species) ...	374/428	18/21	472/538	16/18 (18 species as in 1947)
	20/21	1	26/27	1 (11 new species)
(25 species in total)	394/449	19/22	498/565	17/19 (29 species in total)
Gain on 1947 ...	264/269	13	unknown	unknown

It is impossible to account in detail for the startling rise in the breeding population evident from 1947 to 1959. Nevertheless it can be estimated that 65% of the gain apparent in the restricted area is provided by the increased numbers of five of the commonest breeding species (Blackbird, Wood Pigeon, Mallard, Hedge Accentor and Song Thrush). The populations of new breeding species make up a further 8%. In addition there have

* September, 1960. It is now clear that in 1959 the breeding population of Regent's Park and Primrose Hill was at a peak, at least in the variety of species present (though not in the total number of pairs breeding). For instance, the Stock Dove, a species regarded as "safely established" a year ago, has apparently disappeared as a breeding bird.

been definite increases in the populations of Moorhen (continuing in 1960) and Mistle Thrush, Great Tit, Greenfinch and Chaffinch have also strengthened their positions. Numerical calculation of these changes cannot be made accurately, but they probably account for the remaining 27% or most of it. The *minimum size* of the breeding population (498 breeding pairs) is itemized against species in an appendix on page 107.

The figures for 1959 are still low when compared to the national averages of breeding density, since they only just exceed those for permanent grassland and nowhere near approach the figures for habitats with better cover. In this context however it should be realized that while the area is called a park, it consists mostly of open areas of grass (and well-trodden grass at that !).

If the density figure (of birds per 10 acres) is calculated for the total *summer* population, including both non-breeding birds and those breeding outside the area but regularly feeding inside, then the number of birds per 10 acres is 40/52, about half the national average for *natural* parkland.

Cramp's second control was the correlation of his findings to those of Elton, 1946, who in a survey of a wide range of animal community habitats, "found a rather constant and high percentage of genera, with only one species present, the average being 86% while the average number of species per genus was 1.38". The comparable figures for Cramp's study area in 1947 were 87% and 1.18. The 1959 equivalent are 78% and 1.26; these improved quotients are perhaps the clearest testimony to the remarkable breadth of the breeding population of Regent's Park and Primrose Hill in the year under review.

WINTER POPULATION (SPECIES PRESENT)

In the following table, it has been possible to use Cramp's classification, but the method of treatment follows that used for the breeding population.

	1946/47	1959
A. Present all year	Mallard	Mallard
	Tufted Duck	Tufted Duck
		Pochard
	Mute Swan	Mute Swan
	Moorhen	Moorhen
		Coot
	Wood Pigeon	Wood Pigeon
		Stock Dove
	Tawny Owl	Tawny Owl
		Great Spotted Woodpecker
	Carrion Crow	Carrion Crow
		Jay
	Great Tit	
	Blue Tit	
	Mistle Thrush	
	Blackbird	Blackbird
	Robin	
		Hedge Accentor
		Pied Wagtail

	1946/47	1959
	Starling	Starling
		Bullfinch
B. Present all year but less common in winter	House Sparrow (14)	House Sparrow (17)
		Great Tit
		Blue Tit
	Wren	Wren
		Mistle Thrush
	Song Thrush	Song Thru
		Robin
	Hedge Accentor	
	Greenfinch	Greenfinch
		Goldfinch
	Chaffinch (5)	Chaffinch (9)
C. Number of species present all year.	19	26
D. Resident or frequent in winter ...	Heron	Heron
	Pochard	
	Coot	
		Lesser Blackback
		Herring Gull
	Common Gull	Common Gull
	Blackheaded Gull (5)	Blackheaded Gull
		Redwing
		Linnet (7)
E. Number of species present or frequent in winter.	24	33

As can be seen, the changes in status are complicated. Furthermore it may be that the makeup of the winter population varies from year to year ; for instance Goldfinches were absent for long periods in the winter of 1958/59 and of 1959/60 but were quite common at this season in 1950/51 and 1951/52 (conversely the position of this species as a breeding bird was precarious in these years). This much is clear, however, of new winter residents, both lesser Black-backed and Herring Gulls are now regular in very small numbers ; Redwings are present for long periods and can be properly included in the last class. Linnets have almost as good a claim, their occurrences in 1958/59 being abnormally few. It should be noted that the appearances of the last two species is not entirely dependent on hard weather conditions. The balance between the other two classes, an increase of seven, is made up of two species gained as permanent residents from the previous winter residents in 1946/47 (Pochard and Coot) and five new resident species which arrived since 1947 (Stock Dove, Great Spotted Woodpecker, Jay, Pied Wagtail and Bullfinch). Fuller details of the data summarized here can be found in the systematic list.

Migrant Population

This was not covered by Cramp, 1948, but the value of keeping comprehensive records of migrant species in order to add to our knowledge of migration through the London Area can be clearly illustrated by the following quantitative analysis of the numbers of nocturnal migrants, which occurred in the autumns of 1951, 1958 and 1959.

COMMONEST NOCTURNAL MIGRANTS (IN AUTUMN).

		August		September		October
		1st half	2nd half	1st half	2nd half	1st half
1951	{ 1. ...	—————	Willow Warbler	Phyllosopus Sp.	Chiffchaff	—————
	{ 2. ...	—————	Wheatear	Pied Flycatcher	× × × × ×	—————
	{ 3. ...	—————	Sylvia Sp.	Wheatear	× × × × ×	—————
1958	{ 1. ...	—————	Wheatear	Chiffchaff	Chiffchaff	Chiffchaff
	{ 2. ...	—————	Willow Warbler	Wheatear	Wheatear	× × × × ×
	{ 3. ...	—————	Chiffchaff	Whitethroat	Whitethroat	× × × × ×
1959	{ 1. ...	Willow Warbler	Willow Warbler	Chiffchaff	Chiffchaff	Chiffchaff
	{ 2. ...	Whitethroat	Wheatear	Wheatear	Pied Flycatcher	× × × × ×
	{ 3. ...	Wheatear	Whinchat	Whitethroat	Wheatear	× × × × ×

NOTE : Crosses indicate the absence of sufficient records to provide a basis for analysis and lines periods of no observations.

The passage of the Pied Flycatcher is rather erratic (the conditions under which this species occurs are not as yet fully understood). If discounted as such, then the Whitethroat takes its place in the first half of September, 1951, and the second half of September, 1959, but after Wheatear in each case. Even without this manoeuvre, a pattern of regular occurrence can be seen and it is thought that future observations should add more detail rather than point to differences.

It seems clear that to talk of a migrant population with standard components passing over and through Inner London is not pure fancy and to think of the parks and squares as Fair Isles set in a stone sea, as I used to in 1951, is quite wrong.

The marked localization of the migrant population is also worthy of comment. Out of a total of 574 acres, less than ten acres are used by nocturnal migrants during their visits to the area. In fact over 80% of them occur in the Baptist College sanctuary, the leafyard, its shrubberies and willow trees and the duck sanctuary on the north-eastern arm of the lake. Visit after visit migrants were found to be restricted to these areas and one can only wonder at the wisdom with which these *natural* localities are selected. During the autumn many observations were made just after dawn when human disturbance is at an absolute minimum, but even after the larger falls random distribution in the total cover available of newly-arrived birds was never noted. Since the majority of passerine migrants at this time of year are juveniles, the selection of optimum food habitats would appear a rapidly acquired skill.

It is surprising that the leaf-warblers neglect so much of the general leaf canopy, which is always free from disturbance and commonly used by feeding tits and finches, in preference for the over-worked willows in the north-west of the park. They do, however, and in 1958 after a wet summer, nearly all the records of *phylloscopi* came from willows. In 1959 after an extremely dry summer, there was a marked increase in records in habitats such as the ash trees in the open air theatre and the poplars by

New Lodge. This was most marked in late September and October, by which time the foliage of the willows was extremely dry and the food supply contained therein presumably at a minimum.

Localization is hardly a term applicable to any diurnal migrant on passage. Nevertheless all Swallows moving south over the park from August to October passed along an aerial path not more than 50 yards wide running from the summit of Primrose Hill, along the canal, over the site of Baptist College, past the eastern edge of Winfields and southwards across the lake. Hirundines wandering in reversed direction during the autumn were spread over a much larger area. Even the heavy broad-front diurnal movements of the late autumn appeared markedly concentrated over certain areas of the park, especially the saddle between Barrow and Primrose Hill, but it is too early to comment in detail on this. One thing is clear. Primrose Hill which of course existed long before the buildings which now surround it is an important landmark for all diurnal migrants moving over central London.

Simultaneous Inland and Coastal Migration

There are no officially recognized inland bird observatories in Britain and little has been published on the subject of diurnal migration readily visible overland. Even less work has been done on nocturnal movements away from the coast.

My misgivings about the concept of "bush to bush" movements of nocturnal migrants inland, recently re-expressed in *Birds of the London Area* since 1900, were increased when in 1958 several large falls of nocturnal migrants in Regent's Park coincided with peak arrivals at Dungeness. The observations made in 1959 have taken me even further away from the supposition implicit in the above concept that all inland movement following the landfalls on a nocturnal migrant's path is of such a character as to be almost opposite to the way in which the bird travels over the most hazardous sections of its total journey, for example deserts and seas. To accept that a migrant adapted to clearing such areas with comparative ease (as it must to preserve itself and its species) immediately rejects its highly developed migratory skills when faced with an easier but in reality overland stage in its passage is difficult.

As it seems important I propose to analyse the major nocturnal movements of the year with this problem in mind, comparing the Regent Park records with those from the coastal observatories, now regularly published in *British Birds* and *Bird Migration*.

SPRING PASSAGE AND ARRIVAL OF SUMMER VISITORS

1. The first large spring arrival of Warblers and other passerine migrants into S. England was recorded overnight on April 4th/5th. The fall was especially noticeable at Portland and Dungeness. It was on the morning of April 5th that Willow Warblers re-appeared in the park, following a single bird on March 28th.
2. The second main influx of Willow Warblers into Britain occurred overnight on April 12th/13th ; six were seen in the park on April 13th,

the biggest arrival of the spring. Large falls were recorded at Sandwich Bay and Bradwell on the same day.

3. A rush of Redstarts was noted at St. Catharine's Point on April 25th ; one arrived in the park on that day and two were present on the 26th.
4. Renewed passage in central London of Willow Warblers on May 2nd was closely paralleled by simultaneous movements at Sandwich Bay and Dungeness and followed by a fall at Bradwell on the 3rd.

AUTUMN PASSAGE AND DEPARTURE OF SUMMER VISITORS

1. Overnight on August 2nd/3rd, Regent's Park received a large fall of Leaf Warblers ; most noticeable were 20 Willow Warblers. Similar dramatic arrivals of this species were noted at Sandwich Bay and Portland on August 3rd.
2. A definite arrival recorded on August 22nd, which included Willow Warblers, Chiffchaff, Wheatear, was simultaneous with movements at observatories as far apart as Monk's House and Portland.
3. A build-up in Chiffchaff passage from September 21st to 23rd corresponded to a peak at Sandwich Bay on September 22nd and at Portland on the 23rd. Strangely enough the park also received Pied and Spotted Flycatchers and Goldcrests on these days, prominent species in the Irish Sea at this time.
4. A peak in Goldcrest movement from October 8th to 12th was paralleled at Portland, Dungeness, Sandwich Bay and Bradwell.

IRRUPTION MOVEMENTS

1. The irruption of tits was first suspected in the park on September 20th, on which date Sandwich Bay received its first birds.
2. A second arrival on September 26th was paralleled at Gibraltar Point and Dungeness, while renewed passage at Sandwich Bay and Dungeness on September 30th was reflected in the park counts and confirmed by the re-appearance of Coal Tits.

No attempt has been made to investigate further this phenomenon of parallel inland and coastal movement by means of a detailed analysis of the related weather conditions since I do not possess the necessary skill. It is however possible to summarize the local weather conditions under which most nocturnal migrants arrived in the study area of Regent's Park in 1959. During the spring the majority of birds appeared when the night sky was clear and when the wind was from the S.E. quarter. However, the fairly frequent combination of these factors was probably responsible also for the comparative "invisibility" of the spring movement overall, since the direct passage over London of north bound migrants would be in no way impeded by them. In the autumn most birds arrived when the night sky became obscured and when the wind was from the S.W. quarter. This combination would seriously hamper the progress of south or west-bound migrants. Most of the dramatic falls experienced coincided with such weather, especially when aggravated by rain. However, the *a priori* conclusion that all birds crossing over London are bound to be moving south or west cannot be supported. It is almost certainly wrong to look to the north and east

as the sole points of origin for nocturnal migration over London in the autumn. While nearly all of the nocturnal movements noted above link the study area with the three nearest bird observatories, Bradwell, Sandwich Bay and Dungeness, no less than four are paralleled at Portland Bill, 130 miles to the south-west, and two, the complex arrivals on September 22nd and 23rd, contained species more typical on those days of the migrant population of the Irish Sea than that of the east coast.

It is not practicable, on the basis of the existing data, to proceed further with this sort of comment. Some of the apparently closely linked movements might have been the results of coincidence or of falls from several separate migrant assemblies moving through the various sectors of a favourable weather system. However, on balance the conclusion that most of the major fluctuations in the nocturnal migrant population in the study area in 1959 were directly related to coastal movements (in six cases at least 130 miles distant) seems inescapable. One further point : that fact that so many falls were practically simultaneous suggests that the huge and dramatic movements that as yet can only be seen quantitatively on the radar screen might be qualitatively analysed by the correlation of combined inland and coastal observations.

On ten other dates, in spring and autumn, diurnal movements, apparently linked to coastal passage of a similar character, were recorded. Analysis of these movements shows a *prima facie* correlation as in the above examples of simultaneous nocturnal arrivals, but publication of this information is being withheld pending a full investigation of the phenomenon in the autumn of 1960. Full details of the 1959 records can be found in the systematic list.

Detailed Notes on Species Observed

LITTLE GREBE. One on Sept. 28th.

HERON. One or two on most days from January to April, two on June 22nd and one or two regularly from Aug. 1st to the end of the year. Odd birds fly south over the area presumably on their way to other Inner London waters at all times of the year, but a party of seven on Oct. 1st, moving S.E. may have been on migration.

MALLARD. Never less than 400 on any date, with 724 on Jan. 3rd, numbers dropping to c.410 in early March, 680 on Mar. 29th and over 600 on several dates in April (suggesting passage), adult population down to 450/500 in May and June, 654 adults and young on Aug. 3rd, thereafter between 512 and 585 until Dec. 20th, when 738 was present, and 705 on Dec. 25th. At least 50 breeding pairs, with newly hatched ducklings coming onto the lake from Apr. 17th to Aug. 1st ; throughout this period the brood size (at any age) averaged 5.3 but the total number reared was c.175.

TEAL. One on canal near Zoological Gardens on Nov. 23rd.

TUFTED DUCK. 53 on Jan. 3rd, thereafter from 20 to 42 until Feb. 27th, 86 on Mar. 1st and 62 on the 6th, up to 36 until Apr. 1st ; lowest summer count of adults, 10 on July 19th, only nine on Sept. 26th and Oct. 11th

(fledged young having left the park), over 20 from Nov. 22nd with 37 on Dec. 20th. Five broods of ducklings appeared between June 21st and Aug. 11th, their size averaging at 2.4 ; due to mortality no more than eight survived.

POCHARD. Never more than 14 from Jan. 3rd to Feb. 27th, numbers rising to 28 on Mar. 6th, thereafter *c.*15 until May 24th, when only six were present, but 32 adults and young on July 29th, fewer in August and September, up to 26 in October and November, *c.*15 in December. At least five broods seen between May 24th and July 9th, their average size decreasing, due to heavy mortality, from 5.4 to 2.4 ; the total number reared was 12.

GOOSE Sp. Four, definitely not Canada and probably Grey, flying S. on Nov. 1st ; the first record for Inner London since 1956.

[CANADA GOOSE. Following the re-introduction of this species into the park from 1955 onwards, about 30 adults (some full-winged) now frequent the lake. Several pairs bred in 1959, but neither they nor their offspring can be considered feral yet.]

MUTE SWAN. No breeding attempted in the park, but a pair one cygnet nearby on the canal brought it to the lake in August. Up to eight from January to Mar. 1st, seven on Oct. 31st, otherwise under five all year.

SWAN Sp. One, probably Bewick's, flying S. on Nov. 4th ; the second record of a wild swan in Inner London.

KESTREL. Single birds on Feb. 1st, Apr. 5th and June 19th ; a pair from June 29th to July generally arrived from the south and were also seen over Marylebone High Street in the same period ; a falcon with a bird of the year on July 30th ; one or two on thirteen dates between Sept. 14th and Nov. 3rd (at least ten different individuals were noted and some were undoubtedly migrants) ; single birds on Dec. 4th and 12th.

PHEASANT. A hen in or near the leafyard on Sept. 14th and Oct. 18th.

MOORHEN. Winter maxima, 54 on Feb. 15th and Dec. 12th ; at least 40 up to Feb. 27th and from early November, other counts indicated passage in late March and the second week of October. At least eight breeding pairs on main lake and one on canal ; newly hatched chicks seen from July 7th to Aug. 9th, 11 fledged successfully from seven broods seen.

COOT. About 25 from January to Feb. 14th, fewer in March and maximum of six throughout summer ; a few birds came in early September and 15 were present from Dec. 5th to 31st. Three pairs laid, but all clutches were broken by park-keepers in order to prevent a population build-up as in St. James's Park.

LAPWING. Single birds on Jan. 10th and Apr. 22nd ; an interesting series of summer records, up to eight passing W.N.W. on June 14th and 21st, July 5th and 6th ; six on Sept. 14th, up to seven on eight days between Oct. 5th and 31st, 48 on Nov. 1st and one or two on Nov. 2nd and 4th, the majority passing to W. or N.W.

RINGED PLOVER. One on Sept. 28th, only the fourth record for Inner London.

SNIFE. Single birds on Sept. 17th and 29th and Oct. 5th, two of these were flushed from the lake isles and the first and last flew away to the north ; the first records for Inner London since 1955.

WOODCOCK. One in leafyard on Sept. 29th.

COMMON SANDPIPER. Two on Aug. 24th, one on Oct. 5th.

GREAT BLACKBACKED GULL. Seen in flight only ; single birds on Feb. 22nd, Oct. 10th and 12th, Nov. 1st, seven on Oct. 31st and four on Dec. 2nd.

LESSER BLACKBACKED GULL. Four on Jan. 25th, but normally only one or two from January to March 29th ; not recorded in April but up to three on May 6th, 19th, 22nd and 23rd ; single birds on June 29th and July 12th ; autumn passage built up from Aug. 1st, with up to 15 daily to the 12th and smaller numbers from Aug. 20th to Sept. 18th, up to 13 from Sept. 21st to 23rd and eight on Oct. 3rd, otherwise up to five from Sept. 24th to Nov. 1st ; one bird thereafter resident until Dec. 31st, three on Dec. 20th.

HERRING GULL. Up to 11 in January and February, up to four in March, one or two on Apr. 5th, 21st and 23rd ; none thereafter until Aug. 3rd when a sick bird arrived to become resident ; two or three on Sept. 24th and 25th and a total of 37 passed S. on Oct. 31st and Nov. 1st ; up to six in late November and December were much attached to captive gulls and skuas in the Zoo. One on Dec. 25th was trying to open a bivalve by dropping it on the small wooden pier on the west side of the lake ; eventually it flew off to look for a rock !

COMMON GULL. Up to 113 from January to mid-February, 166 on Feb. 22nd, but only 31 by March 1st and never more than 41 during the rest of that month, three on Apr. 5th and single birds until the 21st ; thereafter, apart from two on July 12th, none until Aug. 1st ; up to 16 daily until Aug. 12th, passage recommenced on the 18th with peaks of up to 15 daily in mid-September and the second week of October ; some winter residents arrived in late October, the number rising to *c.*100 in December.

BLACKHEADED GULL. Over 500 from January to Feb. 22nd, maximum *c.*1,200 on Jan. 31st, *c.*200 until early March but only 20 by Mar. 24th and none after the 29th ; one on Apr. 20th and 26th ; single birds on July 16th and 17th, three on the 27th foreshadowed the arrival of 28 on Aug. 1st, similar numbers throughout that month but fewer in early September, up to 70 from Sept. 26th with a peak arrival of 260 on Oct. 10th (on this day of 135 which came in during the morning, several were in apparently full summer plumage and many were in only partial moult, suggesting that they were part of a completely different population from those almost all in winter plumage passing earlier), another peak of *c.*230 on Oct. 18th ; over 300 daily in early November rising to 1,100 in

December. A few roosted on the lake shores during most of October and occasionally at other times of the year.

STOCK DOVE. One or two regularly during daytime from January to mid-March, but up to 19 roosting in trees of lake isles and the Holme in mid-February ; six on Mar. 26th and three, possibly four pairs throughout summer. Three separate fledglings seen between July 7th and Aug. 1st; breeding birds and juveniles were apparently absent after early October. One on Oct. 28th and two on Nov. 4th were flying N.W. with other migrants. Feeding on the ground in the park observed on only four occasions, but drinking occurs regularly.

FERAL PIGEON. Regular counts included 396 on Jan. 3rd, 280 on Feb. 14th, 200 on Aug. 3rd, 980 on Sept. 26th (majority feeding on grass pitches), 325 on Nov. 22nd, 200 on Dec. 12th and 13th and 275 on the 20th. A breeding colony exists in the ruins of St. John's Lodge.

WOOD PIGEON. The status of this species is extremely difficult to summarize ; the number present during the daytime bears no relationship to the number roosting and vice versa. Diurnal counts include 244 on Jan. 3rd, 154 on Apr. 18th, 245 on May 24th, in September, 500 on the 17th, over 1,000 on the 23rd, and maximum, 1,200 on the 26th (majority feeding on open grass), 800 on Oct. 16th and from 25 to 75 in December. Roosting counts proved to be very inaccurate, but generally at least 400 came in to lake isles and surrounding shores alone ; most arrive from N.W. and N. At least 75 pairs bred and possibly 100 attempted to do so ; *c.*75 young had fledged successfully by September and there were squabs in nests as late as Oct. 8th.

Diurnal migration was first recorded on Oct. 26th, when 85 passed west at *c.*300 feet, and it recommenced on Oct. 30th, with peaks on Nov. 1st, 292 moving N.W. from 0840 to 1030 hrs., and on Nov. 5th, 120 passing in same direction from 0815 to 0850 hrs ; after Nov. 6th intermittent records only, including 65 moving W.N.W. from 1200 to 1310 hrs. on Nov. 22nd, but some movement continued until Dec. 2nd.

TURTLE DOVE. Single birds in flight on May 19th and 24th and Aug. 14th.

TAWNY OWL. One roosting in an elm by south-east corner of Zoological Gardens from mid-February to early March ; not found again until June 21st when one adult and two others, one certainly an owlet were located in woods opposite Winfields ; an adult in a plane-tree west of Zoo on June 26th. Park-keepers state that owls are " heard almost every night, but mostly in cold weather and late in year ". Early 1960 records tend to confirm suspicion that there may be more than one pair in the park.

SWIFT. Five on May 6th, but generally scarce until the 24th, when 26 were seen ; up to 30 in June until the 21st, when from 21.45 to 21.55 hrs. 83 passed N. over Charlbert Gate, and the 26th, when between 12.00 and 14.30 hrs. 125 gathered over the park (these records fit in with unusual concentrations at Brent Res., Middx.) ; up to 20 in early July. Breeding no more than suspected on the periphery of St. John's Wood, but one

bird seen actually entering eaves of a house in Cumberland Terrace on the edge of the study area on July 17th ; *c.*15 had been continually present round roof-tops there and at Park Village East since June. Southward movements started on July 15th, building up to peak of 54 on the 26th and continuing daily until Aug. 5th, the last bird being seen on Aug. 11th and 12th.

KINGFISHER. Two fishing in duck sanctuary at 07.40 hrs. on Oct. 5th left shortly afterwards ; only the second Inner London record in the last five years.

GREAT SPOTTED WOODPECKER. Single birds (of both sexes) throughout the year, but at least one and probably two pairs with a separate single bird on Mar. 1st, when display and hole-searching was noted ; a pair frequently in north-west corner of the park in April, but no young were seen.

SKYLARK. Single birds on Jan. 12th, Mar. 4th and 27th ; two on Sept. 27th and odd birds to Oct. 4th, from which date passage of up to 40 daily became continuous until Nov. 8th with larger movements of 197 in an hour on Oct. 31st, *c.*500 from 08.40 to 11.10 hrs. on Nov. 1st, 203 from 08.20 to 08.45 hrs. on the 2nd ; up to five on four other dates in November, the last on the 30th. All birds in the autumn flew W. on W.N.W.

WOODLARK. Two flying N.W. at 08.00 hrs. on Oct. 31st ; the fourth record for Inner London.

SWALLOW. Single birds on Apr. 13th, 25th, 27th and 28th, May 2nd, 4th ; three on the 6th and two on the 31st ; two on Aug. 4th and one on the 31st, a " party " on Sept. 1st, one on the 9th and four on the 10th ; thereafter small parties seen almost daily from Sept. 14th to 30th with a peak of 12 on the 26th ; 12 on Oct. 3rd and one or two on Oct. 6th, 7th and 22nd.

HOUSE MARTIN. Single birds on June 26th, July 30th, Aug. 9th, at least 12 on Sept. 17th, eight on the 26th and two on Oct. 12th.

SAND MARTIN. Two moving W. on July 6th, one on Sept. 8th, at least eight on the 17th and one on the 26th.

CARRION CROW. Up to 12 seen in Regent's Park in February and March, apparently fewer in April but five pairs found during breeding season, four of which brought off a total of nine young ; up to 20 adults and young frequently together on open grass pitches from mid-September to Oct. 5th, but numbers dropped to 12 by December. One pair at least on Primrose Hill, breeding success unknown. A party of five passed N.W. on Oct. 13th.

ROOK. One on Oct. 26th, three on Nov. 4th and six on the 5th ; all moving N.W.

JACKDAW. Three on Sept. 15th, single birds on Sept. 28th and on Oct. 7th, two flying N.W. on Oct. 20th, ten moving in same direction on Nov. 4th and one on the 10th.

JAY. An elusive species, but five adults present at the beginning of the breeding season and two pairs reared a total of three young ; six birds were present in December. No autumn immigration was noted and this species was not seen on Primrose Hill.

GREAT TIT. Up to four in January, five in February were joined by a pair in clean plumage on Mar. 1st and several others must have come in before April 5th, when song was heard from several localities ; six, possibly seven, pairs present during breeding season and three other territories held by single birds ; only three families seen with five young reared in total. Twelve together near the open-air theatre on Aug. 1st. A district autumn movement from the third week in September through October, numbers small (under five in census area on all dates) but definite influxes coinciding with other tit movements on Sept. 22nd, 26th, Oct. 2nd, 8th, 11th and 13th. About six in total area in December. Absent from Primrose Hill during breeding season.

BLUE TIT. Probably about ten in January, but 19 on Feb. 1st and 20 on Mar. 1st ; at least nine and possibly 11 pairs in breeding season ; five families seen, a total of seven young reared. Prominent passage from Sept. 20th through October, with counts (in census area alone) of 22 on Sept. 22nd, 18 on the 26th, 15 on Oct. 1st and 17 on the 3rd and less well-defined influxes on several dates until Oct. 19th. Total population at the year end about 12. At least two breeding pairs on Primrose Hill and up to six from autumn to spring.

COLE TIT. One on Jan. 3rd, a cock singing on Apr. 13th and a pair on the 21st, but no further records until September, the first being noted on the 17th ; four on the 22nd were with other immigrant tits and movements continued well into October with a peak of *c.*12 on Sept. 28th and influxes of smaller numbers until Oct. 20th ; thereafter odd birds present until Nov. 13th. Like the other species of tits, some birds spent several days in the area and where close observation was possible, the plumage details noted suggested a continental origin. One in gardens adjoining Primrose Hill on Aug. 8th, but no evidence of breeding there.

TREE CREEPER. One on Jan. 24th.

WREN. Only three seen during census on Jan. 3rd, but at least 12 found during counts on Dec. 12th and 13th ; this latter figure is a better estimate of the winter population. Other records point to a spring influx and certainly nine and possibly 14 pairs were present during the breeding season, with cock birds in song at some time in six other localities ; six families seen and a minimum of ten young reared. At least ten must have left the area during the autumn. One pair throughout the year in gardens adjoining Primrose Hill.

MISTLE THRUSH. Three pairs found up to Feb. 15th when another was discovered ; several others appeared later, so that at least six and possibly seven pairs were present during the breeding season, with five other territories occupied at some time ; at least five families seen and a minimum of seven young reared. Several interesting autumn movements including 12 flying S. on Oct. 12th, four to N.W. on the 16th, 7 to N. on the 20th, a flock of 35 to W.N.W. on the 29th, and six to N.W. on Nov. 1st. Total population fell to five by Dec. 13th. One, possibly two, pairs on Primrose Hill during breeding season and up to six in winter there.

FIELDFARE. A diurnal migrant and therefore more obvious on passage than Redwing. One on Feb. 16th ; in autumn, six on Oct. 15th, one on the 22nd, four on the 29th, 101 flying N.W. in an hour on the 31st, *c.*360 moving to N.W. from 08.40 to 10.30 hrs. on Nov. 1st and up to 30 on five other dates in that month.

REDWING. Single birds on Jan. 12th and Feb. 9th ; nine came in on Feb. 14th and at least four remained in the park until early March; two migrants on Apr. 1st. No nocturnal listening watches were held during the autumn, but birds were seen on eight mornings between Oct. 13th and Nov. 8th with a peak of 29 on Nov. 1st. All movement was to N.W. Five on Primrose Hill on Feb. 14th.

SONG THRUSH. A minimum of 42 on Jan. 3rd, but numbers may have dropped in following weeks, only 25 being seen in a partial census on Feb. 15th ; *c.*40 on Apr. 1st, but final estimates of breeding population much larger, at least 32 and possibly 34 pairs being present with ten other territories being held for some time. Twenty families seen and 32 young reared. Some evidence of passage as early as Sept. 26th, but up to four actually seen passing N.W. with other thrushes on Oct. 20th, 23rd, 26th, and 31st and Nov. 1st. Total population in mid-December was around 20. Up to 12 on Primrose Hill during winter and at least three breeding pairs there.

From autumn to spring, Song Thrushes both greyer and darker than those of the breeding population occur in the park and it is clear that individuals of populations breeding far outside London and even Britain may join the residents for several days at a time.

BLACKBIRD. At least 233 on Jan. 23rd but partial counts indicated a decrease by March. Full counts on Apr. 1st and 3rd gave results of 250 and 242 respectively, the latter figure including 152 cocks ; some hens may have been sitting at this time as only 90 were seen, but final estimates gave a breeding population of only 100 to 120 pairs and there is other evidence to suggest that there is a surplus of cocks in the park. The total number of families reared is not known, but partial counts suggested that on average 2.1 young were reared by successful pairs. Some departure from park during autumn but a census on Dec. 12th and 13th produced a total of 396, a figure which relates closely to the spring count of existing adults and the number of young subsequently reared. No pronounced autumn movement, but 30 moved W. on Oct. 10th and 10 were moving S. with Mistle Thrushes on the 12th ; 20 feeding in the hawthorn clump on Primrose Hill on Nov. 1st were hungry and excited and a smaller nocturnal influx was noted on the 8th. At least ten pairs on Primrose Hill during breeding season.

WHEATEAR. Seen in the park only on autumn passage : one on Aug. 5th, two on the 6th, single birds on Aug. 12th, 14th, 17th and 22nd, two on Sept. 8th, one next day and on the 14th, two on the 27th. The census area was visited both after dawn and before dusk on all these dates and, apart from the last two, all birds apparently arrived during the daylight hours. Only one of the dozen birds seen was an adult.

- WHINCHAT. Single birds, all immature, on Aug. 5th, 6th, 18th and 20th, Sept. 6th, 9th and 22nd. All apparently made diurnal arrivals.
- REDSTART. One on Apr. 25th and two next day ; single birds on July 12th, Sept. 9th and 28th.
- ROBIN. Up to ten in January and February, but six cocks in song on Mar. 1st and 12 territories being defended by Apr. 1st ; final estimates gave breeding population of 13 to 15 pairs, with eight other localities being occupied at some time, eight families seen and at least 12 young fledged successfully. Eleven singing on Sept. 15th, but total population down to 18 by the 29th, remaining at this level until the year's end. Robins appeared unusually prominent early on Oct. 6th, but no evidence of further influxes during late autumn. One pair bred successfully in a garden adjoining Primrose Hill.
- REED WARBLER. A family party, on passage, on an island of the main lake on July 30th.
- SEDGE WARBLER. A cock on May 9th.
- BLACKCAP. Single birds on May 6th, Aug. 1st and 15th, Sept. 7th and 16th.
- WHITETHROAT. A cock on Apr. 15th and 17th ; a hen seen in the Baptist College Sanctuary on July 7th and a bird of the year was present for several days in early August ; one or two migrants from Aug. 7th to 11th and on the 14th, on Sept. 7th, 8th, 11th, 14th and 23rd.
- LESSER WHITETHROAT. One on Sept. 10th.
- WILLOW WARBLER. One on Mar. 28th ; three on Apr. 5th and small numbers on 12 days between Apr. 8th and 27th with a peak of five on the 13th, three on May 2nd, one or two on most days until the 9th. One sang in the Baptist College sanctuary for a week in early May and what was probably a hen bird was inspecting ground cover on May 4th, but both left. Single birds on July 16th and 29th, a " huge " fall of 20 on Aug. 3rd (after a night of S.W. wind and rain), thereafter seen almost daily with definite influxes of up to seven on Aug. 6th, 7th, 9th, 12th, 17th and 22nd ; in September, single birds only on the 24th and 27th.
- CHIFFCHAFF. Single birds on Apr. 1st, 5th, 12th, 15th and 17th, none in May, but single birds noted again on July 11th and 12th and Aug. 1st. None definitely identified during main Willow Warbler passage until Aug. 22nd, but this species was the dominant leaf warbler in September, with two on the 7th, three on the 14th, followed by odd birds until 13 arrived overnight on the 23rd, up to seven daily until the 28th, nine on Oct. 1st, and up to three until the 4th, two on the 7th and one on the 16th.
- WOOD WARBLER. Single birds on Apr. 27th and Aug. 3rd.
- GOLDCREST. A pronounced autumn passage with records on fifteen dates between Sept. 23rd and Oct. 19th, with main arrivals three on Oct. 2nd, four on the 8th, four more on the 9th and three on the 17th ; two on Oct. 28th were the last. One on Primrose Hill on Oct. 15th.
- SPOTTED FLYCATCHER. The breeding population arrived late, with none before May 31st ; four pairs were present in late summer and a fifth was

suspected to be in the grounds of Hanover Lodge. Two families were seen in the park and five young fledged successfully ; apparently absent from Primrose Hill as a breeding species. Autumn movements difficult to define, but passage birds occurred in September after the departure of the breeding population ; two on Sept. 23rd were the last.

PIED FLYCATCHER. One on Sept. 7th, two on the 22nd, two different birds next day and a late bird on Oct. 3rd. Morning and evening visits were made on the late September dates and it was clear that three of the four birds recorded then left the park during the daylight hours.

HEDGE ACCENTOR. Amazingly abundant ; from January to May, pair after pair were discovered and final estimates gave a minimum of 39 and a maximum of 45 breeding pairs, with six other localities occupied at some time. Eleven families were seen but only eleven young survived. Certain pairs were proved to have both summer and winter territories. Total population in December at least 35 ; no count was made in that month in the Zoo, where the wildfowl enclosures are important refuges for this species but it is clear that part of the breeding population wanders away from the park confines in winter. At least two pairs on Primrose Hill.

MEADOW PIPIT. One on Jan. 12th, five on Mar. 24th and several next day ; two on Sept. 12th and one on the 17th, almost daily records from the 21st to Oct. 23rd with maximum 44 on Oct. 12th, three on Oct. 28th, up to eight from Oct. 31st to Nov. 2nd, single birds on Nov. 6th and 13th. Most birds flew W. or W.N.W., but birds moving between Oct. 12th and 17th were moving S.E.

TREE PIPIT. One on May 5th.

PIED WAGTAIL. First seen on Jan. 31st, a pair was continually present from Feb. 14th to June ; they nested in the leafyard, rearing one youngster. No records in July but single birds on three dates in August and up to four on 25 dates between Sept. 21st and Oct. 23rd, with definite influxes on Sept. 25th, in the first week of October and on the 11th, 16th and 20th ; single birds on Oct. 28th and Nov. 2nd, 13th, 28th and 30th. The period of main passage conformed closely to that of Meadow Pipit movement.

WHITE WAGTAIL. One of three *alba* wagtails seen on Oct. 5th was clearly of this race, the third record for Inner London.

GREY WAGTAIL. One by canal on Jan. 2nd ; single birds on Sept. 14th and 17th, one or two on most dates from Sept. 21st to Oct. 8th, single birds on Oct. 15th and 22nd.

YELLOW WAGTAIL. In contrast to previous years, none in spring and only two records during the autumn, one on Sept. 8th and two on the 14th.

STARLING. A total of 487 on Jan. 3rd but only 115 on Dec. 13th ; other daytime counts vary considerably between 104 and 270. The park is one of the main staging posts on the way to the Trafalgar Square roost ; from 10,000 to 15,000 birds use it in late September and early October (during this period up to 2,500 "swarm" on the grass pitches, the trees being

already full) and up to 6,000 come in before dusk at other times of the year. At least 25 breeding pairs in the park and several on Primrose Hill. Pronounced autumn movements from Sept. 26th and morning passage to W. or N.W. noted on almost every morning from Oct. 9th to early November, with main peaks 116 on Oct. 19th, 102 on the 26th, c.325 on the 31st, 291 on Nov. 1st and 364 on the 2nd ; a few passed over to W. until December.

HAWFINCH. One on Feb. 14th.

GREENFINCH. Single birds, usually in or near the Zoo, on six dates from January to mid-March ; a flock of six in the Charlbert area on Feb. 8th, but birds did not become widespread until Mar. 24th ; at least nine pairs present during the breeding season, with nine other localities being occupied at some time. Six families seen and up to ten young reared ; a flock of 11 present up to early October. Up to six moving with other finches on seven dates from Oct. 12th to Nov. 1st. Very few in the park in November, but eight on Dec. 12th.

GOLDFINCH. One on several dates from January to Apr. 3rd, when five came in ; three pairs during the breeding season and two other localities were occupied by single birds for some time. Three families were seen and five young flew successfully ; a post-breeding charm of 11 was present from mid-September to early October, 15 were seen together on Oct. 10th but only three were present by the end of the month ; one on Dec. 14th. A total of eight birds moving W. with other finches in October, maximum four on Oct. 12th.

CARDUELINE FINCH Sp. Two on Oct. 22nd, seven on Nov. 1st, one on the 2nd and the 6th. All were migrating to W. or N.W. with other migrant finches.

SISKIN. Four flew N.W. on Oct. 26th, two on Oct. 31st and Nov. 5th also moving N.W. or W. The sixth, seventh and eighth records for Inner London.

LINNET. Single birds on Jan. 12th, Mar. 25th, July 30th, Aug. 6th and 17th ; 23 records from Sept. 26th to Dec. 5th, with largest numbers 24 moving S. on Oct. 14th, 50 to S. on the 17th, 39 to between S. and W. on the 19th, 48 on the 20th and 36 moving W. on Nov. 1st.

REDPOLL. One well seen on Oct. 5th possessed many characters of the Northern Scandinavian race *flammea* ; one or two on Oct. 12th, 15th, 22nd and 26th, all moving W. or N.W. in the early morning ; one on Nov. 28th and two on Dec. 9th and 12th.

BULLFINCH. A pair, first seen on Mar. 27th, bred rearing one and possibly two young. This remarkable occurrence was completely unprecedented, apart from a record of a hen on Aug. 23rd, 1958, and constitutes the first breeding record for Inner London. A flock of four was seen on Oct. 22nd and at least three were present until the end of the year.

CHAFFINCH. Two cocks, usually near the Zoo (and readily available food) in January ; others arrived from Feb. 14th and eight cocks were singing on Mar. 2nd ; up to 14 pairs present during breeding season and at least

17 other territories were held at one time or another. In contrast to the number of adults present, only three families seen and only three young are known to have fledged successfully ; up to 12 commonly seen in one flock in September. Autumn movements suspected as early as Sept. 17th but not confirmed until Oct. 11th, when 72 moved N.W. between 08.20 and 10.15 hrs. ; further passage to W. or N.W. noted on following 28 days with peaks of 84 on Oct. 20th, 82 on the 23rd and 349 on the 31st, 222 on Nov. 1st and 134 on the 2nd. Never more than four in the park after mid-November.

BRAMBLING. One on Primrose Hill on Feb. 22nd ; only identified once during extensive autumn movements, a single bird on Oct. 20th.

YELLOW HAMMER. Single birds on Apr. 2nd, Oct. 31st and Nov. 1st, the last two moving N.W. with Chaffinches. Although there were only seven Inner London records of this species from 1900 to 1954, it has occurred twelve times in Regent's Park in the last five years.

HOUSE SPARROW. Winter maxima for the total area 1060 on Jan. 3rd and c.1000 on Dec. 12th and 13th. Over 1000 were feeding on the grass pitches on Sept. 17th and 26th and the total population at this time must have been at least 1500. At least 50 breeding pairs inside the park confines. Diurnal movements to N.W. of small numbers on Oct. 23rd, 26th and 31st.

TREE SPARROW. One on Sept. 23rd was a surprise, comprising the fourth record for Inner London, but the October records are completely without precedent. Three on Oct. 9th were the first, being followed by seven on the 14th, one on the 15th and 16th, eight flying S. on the 19th, one next day, 13 on the 22nd, single birds on the 23rd and 31st, eight on Nov. 1st and two on the 2nd. On several occasions this species was found amongst the House Sparrow flocks and probably not all the records noted above refer to different birds.

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Appendix

SIZE OF BREEDING POPULATION

Based on minimum number of breeding pairs and relating total breeding success to number of broods seen.

				<i>Minimum No. of breeding pairs</i>	<i>No. of broods seen</i>	<i>No. of young reared</i>
Mallard	...	...	...	c.50	c.50	c.175
Tufted Duck	...	...	...	5	5	8
Pochard	...	...	...	5	5	12
Moorhen	...	...	...	9	7	11
Coot	...	...	...	3	None	None
Stock Dove	...	...	...	3	3	3
Wood Pigeon	...	...	...	c.75	c.75	c.75
Tawny Owl	...	...	...	1	1	1, pos. 2
Swift	...	...	...	1	?	?
Great Spotted Woodpecker	...	...	...	1	None	None
Carrion Crow	...	...	...	6	4	9
Jay	...	...	...	2	2	3
Great Tit	...	...	...	6	3	5
Blue Tit	...	...	...	11	5	7
Wren	...	...	...	10	6	10
Mistle Thrush	...	...	...	7	5	7
Song Thrush	...	...	...	35	20	32
Blackbird	...	...	...	c.100	c.60	c.125
Robin	...	...	...	14	9	13
Willow Warbler	...	...	...	1	None	None
Spotted Flycatcher	...	...	...	4	2	5
Hedge Accentor	...	...	...	41	11	11
Pied Wagtail	...	...	...	1	1	1
Starling	...	...	...	c.30	?	?
Greenfinch	...	...	...	9	6	10
Goldfinch	...	...	...	3	3	5
Bullfinch	...	...	...	1	1	2
Chaffinch	...	...	...	14	3	3
House Sparrow	...	...	...	c.50	?	?
All 29 species	...	...	...	498 (417)	— (287)	— (533)

NOTES :

1. The figures in brackets indicate the total for the 26 species, for which breeding success is known or can be estimated. These can be reduced to the equivalent performance of one pair of breeding birds. The overall effect of the rigorous environment is thus demonstrated, the pair hatching a maximum 0.69 broods and rearing no more than 1.28 young.
2. This appendix does not include Feral Pigeon.

Beddington Ringing Station

DURING the year a total of 2,561 birds of 64 species were ringed, the number of species ringed being the highest ever in a single year at Beddington. The very dry summer contributed largely to the number of birds trapped as many species flew in daily to feed on the water-meadows and at the gravel-pit. The year's figures brought the total ringed at Beddington to 9,200 and the milestone of 10,000 birds ringed was passed during early 1960.

A notable event of the year was the trapping of an Aquatic Warbler and a Ruff within a few minutes of each other on September 20th. Other new species ringed during the year included Woodcock, Common and Wood Sandpipers, Black-headed Gull, Stock Dove, Marsh Tit, Nightingale and Tree Pipit. Swifts were again prominent on the ringing totals and the figure of 556 was the best year ever, bringing the total number ringed to over 1,300.

Details of the numbers and species ringed during the year are as follows:—

<i>Species</i>	<i>Trapped</i>	<i>Pull</i>	<i>Total</i>
Mallard	1	0	1
Teal	1	0	1
Moorhen	7	0	7
Lapwing	2	4	6
Snipe	57	0	57
Jack Snipe	5	0	5
Woodcock	2	0	2
Wood Sandpiper	1	0	1
Common Sandpiper	1	0	1
Redshank	1	0	1
Ruff	1	0	1
Black-headed Gull	1	0	1
Stock Dove... ..	0	2	2
Woodpigeon	1	0	1
Cuckoo	1	0	1
Tawny Owl	1	0	1
Swift	556	0	556
Kingfisher	1	1	1
Green Woodpecker	1	0	1
Skylark	1	0	1
Swallow	23	0	23
House Martin	110	0	110
Sand Martin	3	0	3
Carrion Crow	1	0	1
Jay	1	0	1
Great Tit	30	0	30
Blue Tit	52	0	52

<i>Species</i>	<i>Trapped</i>	<i>Pull</i>	<i>Total</i>
Coal Tit	2	0	2
Marsh Tit	1	0	1
Long-tailed Tit	6	0	6
Wren	48	0	48
Mistle Thrush	6	0	6
Song Thrush	109	35	144
Redwing	4	0	4
Blackbird	182	22	204
Whinchat	7	0	7
Redstart	1	0	1
Nightingale	1	0	1
Robin	35	0	35
Reed Warbler	7	0	7
Sedge Warbler	53	0	53
Aquatic Warbler	1	0	1
Blackcap	1	0	1
Garden Warbler	2	0	2
Whitethroat	37	0	37
Willow Warbler	49	0	49
Chiffchaff	12	0	12
Goldcrest	6	0	6
Spotted Flycatcher	2	0	2
Hedge Sparrow	56	10	66
Meadow Pipit	43	0	43
Tree Pipit	1	0	1
Pied Wagtail	96	39	135
Grey Wagtail	4	0	4
Yellow Wagtail	29	19	48
Starling	73	1	74
Greenfinch	129	0	129
Goldfinch	57	0	57
Linnet	26	5	31
Bullfinch	4	0	4
Chaffinch	35	14	49
Reed Bunting	4	0	4
House Sparrow	243	0	243
Tree Sparrow	166	11	177
	<hr/>	<hr/>	<hr/>
	2,399	162	2,561
	<hr/>	<hr/>	<hr/>

Total number ringed 1959—2,561

Total species 1959—64

The year saw the publication in *British Birds* magazine the results of the first study to be undertaken at the ringing station, "Variation in a Population of Yellow Wagtails". Although no "variant" wagtails were recorded breeding on the farm during 1959, the colour-ringing programme was continued during the year in the hope of throwing more light on this puzzling problem.

Our thanks are particularly due to the new farm manager, Mr. E. Hodgson, B.Sc., M.Inst.S.P., for allowing us to carry on with the work of the ringing station.

B. S. MILNE.

Book Review

A HISTORY OF THE BIRDS OF HERTFORDSHIRE. Bryan L. Sage. *Barrie and Rockcliff*. London, 1959. xvi+245 pages, 5 plates. Price 27s. 6d.

It is surprising that although the vogue for publishing books devoted entirely to the birds of a single county began in the mid-19th century, this is the first major work on the birds of Hertfordshire. William E. Glegg, author of histories of the birds of the adjoining counties of Essex (1929) and Middlesex (1935), had also collected material for Hertfordshire. On his death in 1952, Mr. Sage obtained possession of his notes and letters and continued the task of producing this book. It includes records up to December 31st, 1957, and there is a short appendix giving occurrences of particular interest, including the first breeding in the county of the Collared Dove.

The short introduction is mainly concerned with the topography of the county and dismisses migration and changes in the avifauna in one and a half pages, although more information on these subjects will be found in the Systematic List which occupies the greater part of the book. There are also appendices on birds recorded in Hertfordshire that are not on the British list, tables of selected duck counts at certain waters and a breeding season census of the Coot carried out in 1957.

It is only in recent years that the county has suffered much from the direct spread of London as in the Watford and Barnet areas, or from the policy of developing new towns as at Hemel Hempstead and Stevenage. There appears to be no evidence that these developments have reduced the variety of bird life in the county. On the other hand, the construction of canal reservoirs at Tring and Aldenham, of a drinking water reservoir at Hilfield Park, of several sewage disposal works and the digging of gravel in the river systems of the Colne and Lea have provided new habitats, which feature in a high proportion of the records of water birds and waders. It is the wealth of detail regarding these species which is the strongest feature of the book. Scarce or local land birds are less well documented and only a few lines are devoted to some common species. Perhaps this is inevitable in a county which is still largely agricultural and considerable areas of which are infrequently visited by ornithologists, who are attracted mainly by the reservoirs and river valley.

About a quarter of the county is within the London Area and will be of particular interest to London ornithologists. As Mr. Sage has a smaller and less diversified area to deal with, he has been able to give more details of the breeding distribution and occurrences of the scarcer and local birds than was possible in *The Birds of the London Area Since 1900*. In addition there are a few 19th century records of interest which were excluded from that work by reason of date. It should also be mentioned that one or two records are included which have not been published in the *London Bird Report* as in the opinion of the Records Committee they were not fully substantiated.

This book should be in the possession of all interested in the birds of the countryside around London.

F.H.J.

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